

# EXHIBIT A

## Robert Y. Lochhead, Ph.D. Curriculum Vitae

### ADDRESS

The School of Polymers and High Performance Materials  
118 College Drive, # 10076  
The University of Southern Mississippi  
Hattiesburg, MS 39406-0076

### EDUCATION

Post-doctoral, Fulbright Scholar, Department of Chemical Engineering, Carnegie-Mellon University, 1973-75

Ph.D. in Molecular Rheology and Dielectric Relaxation of Polymer Solutions, Department of Pure and Applied Chemistry, The University of Strathclyde, Scotland, 1970

B Sc. (Honours), Pure Chemistry, University of Strathclyde, Scotland, 1967

### WORK EXPERIENCE

- January 2006 -present: **Professor**, School of Polymers and High Performance Materials, **Director of the Institute for Formulation Science**, The University of Southern Mississippi, Hattiesburg, Mississippi
- 2004 -January 2006. **Interim Director**, School of Polymers and High Performance Materials, The University of Southern Mississippi, Hattiesburg, Mississippi
- 2003-May 2004 **Professor**, School of Polymers and High Performance Materials, The University of Southern Mississippi, Hattiesburg, Mississippi
- 2001-2003 **Dean**, The College of Science and Technology, The University of Southern Mississippi, Hattiesburg, Mississippi.
- 2000-2001 **Director**, School of Polymers and High Performance Materials, and **Chair**, Department of Polymer Science, The University of Southern Mississippi, Hattiesburg, Mississippi.
- 1999-2000 **Chair**, School of Polymers and High Performance Materials, The University of Southern Mississippi, Hattiesburg, Mississippi
- 1993-1999 **Chair**, Department of Polymer Science, The University of Southern Mississippi, Hattiesburg, Mississippi
- 1990-93 **Associate Professor**, Department of Polymer Science, The University of Southern Mississippi, Hattiesburg, Mississippi.
- 1987-95 **Adjunct Faculty Member**, Department of Pharmacy, University of Cincinnati, Cincinnati, Ohio.
- 1979-90 **R&D Manager for Hydrophilic Polymers**, BF Goodrich, Avon Lake and Brecksville, Ohio. Job content: polymer synthesis and scale-up; applications research; surface and colloid science; formulation science for cosmetics, pharmaceuticals, detergents, and textile print-pastes.
- 1970-79 **Scientist and Manager**, Unilever Research, Isleworth, England. Job content: polymer synthesis, colloid and surface science.
- 1961-65 **Laboratory Assistant and Experimental Officer**. Nobel Division of Imperial Chemical Industries, Ardeer, Scotland. Analytical chemistry.
- 1961 **Laboratory Assistant** J&R Tennent, Brewers, Glasgow, Scotland

### HONORS, PROFESSIONAL SOCIETIES AND EXAMPLES OF SERVICE

- Society of Cosmetic Chemists: National Merit Award, 2006
- The Royal Society of Chemistry: Invited Speaker, November, 2005
- Gordon Research Conference on Mammalian Skin: Plenary Lecturer, August 2005
- Department of Energy, Committee of Visitors, NABIR, 2004
- State Of Mississippi: "The Governor's Education Achievement Award – Higher Education" 2001 Winner.
- SACS Accreditation reviewer for the University of Houston, Clearlake. 2002
- Peer Reviewer for KTEC, 2001
- American Chemical Society, Member

American Oil Chemists' Society, Member  
American Soybean Association,

Member of Surfactants Technical Advisory Board, 1998  
Association of Formulation Chemists

President 2000-2002

Senior Vice President 1999

Vice President, 1998

Member 1997

*Elsevier Science*, Colloids & Surfaces A: Physicochemical & Engineering Aspects  
Editorial Board, 1996 to 2004

Society of Cosmetic Chemists

Recipient of the Maison G. deNavarre Medal Award for outstanding contributions to the Art and  
Science of Cosmetics, 2000

Accreditation Task Force, 2001 -present

Committee on Scientific Affairs, 1988- 1997, 1999- 2001

Editorial Board, 1998-present

Merit Award Committee Chair, 1999, 2000

Chair, Partnership Award Committee, 1998

Chair, Best Paper Award Committee, 1998

Committee on Scientific Affairs, 1990 1993, 1998-2002,

Chair, Strategic Planning Committee, 1996

Past President, 1999

President, 1994

Vice President, 1993

Vice President Elect, 1992

Executive Board Member, 1992-95

Board Member, 1992-95

Committee on Scientific Affairs, Presiding Officer, 1992-93

Institutional Grants Committee, Chair, 1992

Committee for Chapter Affairs, Presiding Officer, 1992

Lake Erie Chapter Chair, 1986

National Best Paper Award, 1991

National Best Paper Award, 1995

National Best Paper Award, 1996

National Best Paper Award, 1998

National Best Paper Award, 1999

Best Student Presentation, 2002

New York Chapter: Best Presentation of the Year Award, 2002

Council for Chemical Research, Inc.

Science Education and Human Resources Committee 1994-1997

Congressional and Interagency Rapid Action Taskforce 2000-present

Cosmetic, Toiletry and Fragrance Association

Member of International Nomenclature Committee (2003-present)

Consultant to the C.T.F.A.

La Societe Francaise de Chemie, Le Groupe Formulation, Committee de Science, 2001

United Nations Industrial Development Organization - Mission Expert

#### **RESEARCH INTERESTS**

Formulation science

Polymer solution theory

Polymer behavior at interfaces  
 Polymer/surfactant interaction  
 Colloid and surface science  
 Stabilization of dispersions and emulsions using polymers  
 Controlled release from polymer matrices

**PATENTS**

*"In Vivo Polymerizable Ophthalmic Compositions"*, Charles, Steven T., Hammer, Mark E., Lang, John C., Lochhead, Robert Y., Mathias, Lon J., European Patent 973,514 B1, March 5, 2003, assigned to Alcon Labs and the University of Southern Mississippi

Hammer; Mark E.; Charles; Steven T.; Lang; John C.; **Lochhead; Robert Y.**; Mathias; Lon J.; United States Patent 6,180,687; January 30, 2001; assigned to Alcon Labs and the University of Southern Mississippi.

Hammer, M. E.; S. T. Charles; J. C. Lang; **R. Y. Lochhead**; L. J. Mathias; "Articles coated with in vivo polymerizable ophthalmic compositions," U. S. Patent No. 6,124,037, September 26, 2000; assigned to Alcon Labs and the University of Southern Mississippi.

"Polymerizable Mesophases Based on Substituted Unsaturated Carboxylic Acids," **R. Y. Lochhead**; L. J. Mathias; U.S. Patent 6,046,292; April 4, 2000; assigned to The University of Southern Mississippi;

"Single-Phase Soap Compositions," E. T. Lance-Gomez; M. M. Gipp; **R. Y. Lochhead**; C. E. Seaman, Jr.; U.S. Patent 6,007,769; December 28, 1999; assigned to S. C. Johnson & Son, Inc. and The University of Southern Mississippi.

"Surfactants Formed From Menhaden Fish," **R. Y. Lochhead**; R. Bateman; M. Tisack; Mikhail Gololobov; U.S. Patent 5,985,840; November 16, 1999; assigned to The University of Southern Mississippi;

"Polymerizable Mesophases Based on Substituted Unsaturated Carboxylic Acids," **R. Y. Lochhead**; L. J. Mathias; U.S. Patent 5,905,127; May 18, 1999; assigned to The University of Southern Mississippi;

*"In Vivo Polymerizable Ophthalmic Compositions,"* S. T. Charles; M. E. Hammer; J. C. Lang; **R. Y. Lochhead**; L. J. Mathias; U.S. Patent 5,858,345; January 12, 1999; European Patent 973514A1, World Patent WO9844915A1, assigned to Alcon Laboratories and The University of Southern Mississippi.

"Single-Phase Soap Compositions," E. T. Lance-Gomez; M. M. Gipp; **R. Y. Lochhead**; C. E. Seaman, Jr.; U.S. Patent 5,820,695; October 13, 1998; European Patent EP0785985A1, World Patent WO9607724A1; assigned to S. C. Johnson & Son, Inc. and The University of Southern Mississippi.

"Emulsions Comprising a High Molecular Weight Anionic Emulsifying Agent," J. Y. Castaneda and **R. Y. Lochhead**; European Patent 482417 A1; April 29, 1992; assigned to BF Goodrich.

"Bioadhesive Carboxylic Polymers," C. C. Hsu, **R. Y. Lochhead**, W. F. Masler and E. J. Sehm; European Patent 459373 A2; December 4, 1991; assigned to BF Goodrich.

"Oxidation-Resistant Polymeric Thickeners," C. C. Hsu, R. F. Koebel, **R. Y. Lochhead**, M. K. Nagarajan, C. E. Sauer, and W. F. Masler; European Patent 435066 A2; July 3, 1991; assigned to BF Goodrich.

"Stable and Quick-Breaking Topical Skin Compositions from Oil-in-Water Emulsions Containing Acrylic Polymers," **R. Y. Lochhead**, J. Y. Castaneda and W. J. Hemker; European Patent 268164 A2, May 25, 1988; U.S. Patent 5,004,598, April 2, 1991; assigned to BF Goodrich.

"Suspension Composition for Aqueous Surfactant Systems," **R. Y. Lochhead** and D. S. S. Warfield; U.S. Patent 4,686,254; August 11, 1987; assigned to BF Goodrich.

"Stable Carboxylic Acid Polymers in Mineral Spirits," **R. Y. Lochhead**, T. R. George, W. L. Banks; United States Patent 4,668,731; May 26, 1987, European Patent EP 214460 A1; March 18, 1987; assigned to BF Goodrich.

"Improved process for polymerizing unsaturated acids in mineral spirits" **R. Y. Lochhead** and J. C. Garcia, European Patent EP0107062B1, October 22, 1986, assigned to the BF Goodrich Company,

"Stable Mineral Spirit Dispersions of Carboxyl-Containing Polymers," T. R. George and **R. Y. Lochhead**, U.S. Patent 4,536,628; August 20, 1985; assigned to BF Goodrich.

"Polymerizing Unsaturated Acids in Mineral Spirits," **R. Y. Lochhead** and J. C. Garcia; U.S. Patent 4,420,596; December 13, 1983; assigned to BF Goodrich.

#### JOURNAL ARTICLES/BOOK CHAPTERS

Robert Y. Lochhead I Cheri L. Mc Connell-Boykin, Camille T. Haynes, Stephen R. Jones and Virginia Smith, "The High Throughput Investigation of Polyphenolic Couples in Biodegradable Packaging Materials." *J. Applied Surface Science*. 252(7), (2006), 2535

Robert Y. Lochhead\*, Lisa R. Huisenga, Christina Edwards and Anthony Hill, A Combinatorial Investigation of the Effects of Order of Addition in the Interaction of Polyelectrolytes with Surfactants. *Proceedings of the Materials Research Society*. (2006)

Silva L.; Tonkovich , A.L. ; **Lochhead, R.**; Qiu, D.; Pagnatto , K.; Neagle , P.; Perry, S. ; "Enabling Advanced Emulsions in Microchannel Architecture", *Cosmetics & Toiletries*, 120(9), , (2005).

**Lochhead, R.Y.**; Huisenga, L.R.; "Some recent trends in personal care polymers"; *HAPPI*, Vol. 42 (4), p, 2005.

**Lochhead, R.Y.**; Huisenga, L.R.; "Advances in polymers for hair styling". *Cosmetics & Toiletries*, 120(5), p 69, (2005).

**Lochhead, R.Y.** , "Polymers in Hair Color Products," *Cosmetics & Toiletries*, 120(7), (2005).

**Lochhead, R.Y.**; Huisenga, L.R.; "Advances in polymers for hair conditioning shampoos". *Cosmetics & Toiletries*, 120(5), p 59, (2005).

Corcoran, S; **Lochhead, R.Y.**; McKay,T ; "Particle -stabilized emulsions: A brief overview" *Cosmetics and Toiletries*, Vol. 119(8), p 47, 2004.

**Lochhead, R.Y.**; Jones, S. ;"Polymers in Cosmetics: Recent advances"; *HAPPI*, Vol. 41 (7), 2004.

Johnson, K. M; Poe, G D'; **Lochhead, R.Y.**; McCormick, C L.; "The Synthesis of Hydrophobically Modified Water-soluble Polyzwitterionic Copolymer and Responsiveness to Surfactants in Aqueous Solution", *J. Macromol. Sci., Pure and Appl. Chem.*,p 587, Vol. A 41 (6), 2004

Friberg, S. E; **Lochhead, R.Y.**; Blute, I.; Waernheim, T: "Hydrotropes -Performance Chemicals"; *J. Dispersion Sci. Tech.*; p 243, Vol 25 (3); 2004

**Lochhead, R.Y.**; Huisenga, L.R.; "A brief review of polymer surfactant interaction", *Cosmetics and Toiletries*, p37, Vol. 119(2), 2004.

Huisenga, L.R.; **Lochhead, R.Y.**; Welch, C; Maggio, S; McKay, T; "The development of combinatorial methods for formulation of polymer surfactant systems", *Polymeric Materials Science and Engineering*, p 805, Vol. 90, 2004.

Johnson, K.; Fevola, M.; **Lochhead, R.Y.**; McCormick, C.L ; "Hydrophobically-Modified Acrylamide-Based Polybetaines: II. Interaction with Surfactants in Aqueous Solution", *J. Applied Polymer Science*, p 658, Vol. 92(1), 2004

**R. Y. Lochhead** C.L. McConnell-Boykin, 'An Investigative Study of Polymer Adsorption to Smectite Clay: Polyelectrolytes and Sodium Montmorillonite", in "*Polymer Nanocomposites*" (Editors R. Krishnamoorti and R. Vaia) American Chemical Society, 2002.

**R.Y. Lochhead; C.F. Welch;** "Effect of Hydrophobically-Modified Hydroxyethylcellulose on the Phase Morphology of a Model Surfactant Mesophases System in the Liquid Crystal Regime, *Polymer Materials Science and Engineering*, Vol 85, p 67; American Chemical Society, 2001.

**R.Y. Lochhead; C.L. McConnell- Boykin; C. Haynes;** "Interaction of Hydrophilic Polymers with Smectite Clays, *Polymer Materials Science and Engineering*, Vol 85, p 419; American Chemical Society, 2001

**R. Y. Lochhead; Shampoos,,** "The Chemistry and Manufacture of Cosmetics" Mitchell Schlossman Editor, Chapter 12 of Volume II , Allured Press, 2000.

Yamato, N ; D. Kaneko; **R. Y. Lochhead**; "The Investigation of Sodium L-Acyl-N-Glutamate/Cationic Cellulose Interaction," *Proceedings of the International Conference on Colloid and Surface Science*, Tokyo, Japan, November 5-8, 2000

Manuszak-Guerrini, M.; **R. Y. Lochhead**; W. H. Daly; "Interactions of aminoalkylcarbamoyl cellulose derivatives and sodium dodecyl sulfate. 2. Foam stabilization," *Elsevier Science,Colloids and Surfaces*, (1998).

Rulison, C. J.; **R. Y. Lochhead**; "Kinetic Study of the Adsorption of Nonionic and Anionic Surfactants and Hydrophobically Modified Water-Soluble Polymers to Oil-Water Interfaces," in *Surfactant Adsorption and Surface Solubilization*, Ed. Ravi Sharma, ACS Symposium Series 615, pp. 280-315, (1995).

**Lochhead, R. Y.**; Rulison, C.J.; "An Investigation of the Mechanism by which Hydrophobically-Modified Hydrophilic Polymers Act as Primary Emulsifiers," *Colloids and Surfaces*, A88, 27, (1994).

**Lochhead, R. Y.**; Y. Chang; C. L. McCormick; "The Effect of Surfactant Addition on the Solution Properties of Amphiphilic Copolymers of Acrylamide and Dimethylidodecyl(2-acrylamidoethyl)ammonium Bromide," *Macromolecules*, 27, (1994)

**Lochhead, R. Y.**; "Emulsions," *Cosmetics and Toiletries*, 109, (5), 93, 1994.

**Lochhead, R. Y.**; "The Rheology of Hair Care Products," Chapter 8 in *Rheological Properties of Cosmetics and Toiletries*, D. Laba, Editor, Marcel Dekker, (1994).

**Lochhead, R. Y.**; R. Dodwell; W. Hemker; "Pemulen® Polymeric Emulsifiers: What They Are, How They Work," *Cosmetics and Toiletries Manufacture Worldwide*, p. 77, (1993).

**Lochhead, R. Y.**; *Proceedings of the 20th Waterborne, High Solids and Powder Coatings Symposium*, New Orleans, LA; p. 153, (February 1993).

**Lochhead, R. Y.**; C. J. Rulison; H. S. Bui; T. D. Pierce; "Investigation of the Mechanism of Emulsification by Hydrophobically-Modified Hydrogels," *Polymer Preprints of the American Chemical Society*; 34 (1), 863, (1993).

- Lochhead, R. Y.**; C.J. Rulison; "Investigation of the Mechanism and Associative Thickening by Hydrophobically-Modified Hydroxyethylcellulose and Hydrophobically-Modified Poly(acrylic acid)," *Polymer Materials Science and Engineering*, 69, (1993).
- Lochhead, R. Y.**; W. R. Fron; "The Encyclopedia of Polymers and Thickeners for Cosmetics," *Cosmetics and Toiletries*, 108, (5), 95, (1993).
- Lochhead, R. Y.**; "Water Soluble Polymers: Solution Adsorption and Interaction Characteristics," *Cosmetics and Toiletries*, 107(9), 131, (1992).
- Lochhead, R. Y.**; "Conditioning Shampoos," *Soaps, Cosmet., Chem. Spec.*, 68(10), 42 (1992).
- Lochhead, R. Y.**; "The Role of Surface Active Agents in Formulating Water-Borne Coatings," Plenary Lecture, *Proceedings of the 19th Water-Borne, Higher-Solids, & Powder Coatings Symposium*, New Orleans, LA, p. 1, (February 1992).
- Lochhead, R. Y.**; A. C. Eachus, K. D. Bremecker; "Alternative Neutralizing Amines for Carbomers," *Proceedings of the InCosmetics Conference*, Frankfurt, Germany, p. 302, (March 1992).
- Lochhead, R. Y.**; A. C. Eachus and K. D. Bremecker, "The Evaluation of Alternative Neutralizing Bases for Carbomers," *Sieben Ohlen Fettewasche, Kosmetikjahrbuch*, Germany, p. 69, (March 1992).
- Lochhead, R. Y.**; J. R. Wright; L. J. Mathias; "A Direct Real-Time Visual Study of the Morphological Changes in Hair Which Accompany Cosmetic Treatment," (1991).
- Lochhead, R. Y.**; "The Effects of Mesomorphic Phase Structure on the Efficacy of Skin Moisturizing Lotions," *J. Soc. Cosmetic Chemists*, (1991).
- Lochhead, R. Y.**; "The Rheology of Hair Care Products," Chapter 8 in *Rheological Properties of Cosmetics and Toiletries*, D. Laba, Editor, Marcel Dekker, (1991).
- Lochhead, R. Y.**; "Electrosteric Stabilization of Oil-in-Water Emulsions by Hydrophobically Modified Poly(acrylic acid) Thickeners," chapter in *Polymers as Rheology Modifiers*, ACS Symposium Series #462; D. N. Schulz and J. E. Glass, Editors; American Chemical Society, p. 101, Washington, DC, (1991).
- Lochhead, R. Y.**; "Hair Gels," *Household Pers. Prod. Ind.*, 27(4), 58, (1990).
- Lochhead, R. Y.**; J. A. Davidson; G. M. Thomas; "Poly(acrylic acid) Thickeners: The Importance of Gel Microrheology and Evaluation of Hydrophobically Modified Derivatives as Emulsifiers," *Polymers in Aqueous Media: Performance Through Association*, Advances in Chemistry Series #223, p. 113, J. E. Glass, Editor, American Chemical Society: Washington, DC, (1989).
- Lochhead, R. Y.**; "The History of Polymers in Hair Care (1940-Present)," *Cosmetics and Toiletries*, 103(12), 25, (1988).
- Lochhead, R. Y.**; "Encyclopedia of Polymers and Thickeners for Cosmetics," *Cosmetics and Toiletries*, 103, 99, (1988).
- Lochhead, R. Y.**; W. J. Hemker; J. Y. Castaneda; "Hydrophobically Modified Carbopol Polymers. A New Method for the Rapid Preparation of Storage-Stable Cosmetic Lotions Which Break Upon Skin Contact," *Parfum. Kosmet.*, 69(4), 218 (1988).
- Lochhead, R. Y.**; "Probing the Microstructure of Polyelectrolyte Gels," *Polym. Mater. Sci. Eng.*, 57, 272, (1987).

**Lochhead, R. Y.**; W. J. Hemker; J. Y. Castaneda; "Hydrophobically Modified Carbopol Polymers. A New Method for the Rapid Preparation of Storage-Stable Cosmetic Lotions Which Break Upon Skin Contact," *Seifen, Oele, Fette, Wachse*, 113(5), 149, (1987).

**Lochhead, R. Y.**; W. J. Hemker; J. Y. Castaneda; "Hydrophobically Modified 'Carbopol' Resins," *Soap, Cosmet., Chem Spec.*, 63(5), 28, (1987).

**Lochhead, R. Y.**; W. J. Hemker; J. Y. Castaneda; "Hair Care Gels," *Cosmetics and Toiletries*, 102(10), 89, (1987).

**Lochhead, R. Y.**; W. J. Hemker; J. Y. Castaneda; D. Garlen; "Novel Cosmetic Emulsions," *Cosmetics and Toiletries*, 101(11), 125 (1986).

**Lochhead, R. Y.**; D. S. Warfield; C. R. Gasiewski; "Phase Diagrams as a Formulation Guide in Aqueous Polymer/Surfactant Systems," *Polymer Science and Engineering*, 25(17), 1110, (1985).

**Lochhead, R. Y.**; "Carbomers as Thickeners and Suspending Agents in Shampoos," *Soap, Cosmet., Chem Spec.*, 61(4), 46, (1985).

**Lochhead, R. Y.**; A. M. North; "Dielectric Relaxation in Solutions of Two Poly(alkyl isocyanates)s," *J. Chem. Soc., Faraday Trans. 2*, 68(7), 1089, (1972).

**Lochhead, R. Y.**; S. B. Dev; A. M. North; "Dielectric and Viscoelastic Relaxation in Dilute Solutions of Some Non-Gaussian Chains," *Discuss. Faraday Soc.*, 49, 244, (1970).

## PREPRINTS

**Robert Y. Lochhead and Ken Klein**, "Advanced Emulsions" Society of Cosmetic Chemists Course, Newark, NJ, March 8-9, 2006.

**Robert Y. Lochhead** and, Lisa R. Huisenga, "A Combinatorial Investigation of the Effects of Order of Addition in the Interaction of Polyelectrolytes with Surfactants", *Preprints of the Waterborne Conference*, New Orleans, February 24, 2006

**Robert Y. Lochhead**, "The Role of Polymers in Cosmetics: Hair Conditioning and Color", Proceedings of the Advanced Technology Conference, Miami Florida, February 6- 7, 2006.

**Robert Y. Lochhead**, "The Role of Polymers in Cosmetics: Hair Styling", Proceedings of the Advanced Technology Conference, Miami Florida, February 6-7, 2006.

**Robert Y. Lochhead**, Lisa R. Huisenga, Christina Edwards and Anthony Hill. "A Combinatorial Investigation of the Effects of Order of Addition in the Interaction of Polyelectrolytes with Surfactants", *Preprints of the Society of Cosmetic Chemists, Annual Meeting*, New York, December 2005

**Robert Y. Lochhead**, Lisa R. Huisenga, Christina Edwards and Anthony Hill. "A Combinatorial Investigation of the Effects of Order of Addition in the Interaction of Polyelectrolytes with Surfactants", *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.) Fall Meeting*, of the American Chemical Society Washington DC. 2005,

**Robert Y. Lochhead**, Lisa R. Huisenga, Christina Edwards and Anthony Hill. "A Combinatorial Investigation of the Effects of Order of Addition in the Interaction of Polyelectrolytes with Surfactants", *Polym. Materials Science and Engineering, Prepr. (Am. Chem. Soc., Div. Polym. Materials Science and Engineering)* Volume 93, Fall Meeting, of the American Chemical Society Washington DC. 2005,

**Robert Y. Lochhead**, "Polymers in Cosmetics: Fall Meeting, Washington DC An Introductory Workshop", *Polym Prepr (Am. Chem. Soc., Div. Polym. Chem.)*, Fall Meeting, of the American Chemical Society 2005,

Laura Silva, Anna Lee Tonkovich, Dongming Qiu, Krissy Pagnotto, Paul Neagle, **Robert Lochhead**, "Enabling Advanced Emulsions in Microchannel Architecture", *7<sup>th</sup> World Congress of Chemical Engineering, Glasgow, Scotland*, July 10-14, 2005.

**Robert Y. Lochhead**, Cynthia A. Welch, "The Effect of Hydrophobically-Modified Amphiphatic Polymers on Emulsions Stabilized with Self-Assembled Nanostructure Emulsifiers *Preprints of the 23<sup>rd</sup> IFSCC Congress, Orlando, October 23-26, 2004*.

Stephen Ray Jones, Virginia Smith, and Robert Y. Lochhead, "Biodegradable Packaging Materials for Cosmetic Applications, *Preprints of the 23<sup>rd</sup> IFSCC Congress, Orlando, October 23-26, 2004*.

Charles L. McCormick, Kathryn M. Johnson, Michael J. Fevola, and Robert Y. Lochhead, "Hydrophobically Modified Acrylamide-Based Polybetaines: Interaction with Various Small-Molecule Surfactants in Aqueous Solution", *Preprints of the 23<sup>rd</sup> IFSCC Congress, Orlando, October 23-26, 2004*.

Camille T. Haynes and Robert Y. Lochhead, "The Investigation of Adsorption, Intercalation and Exfoliation of Montmorillonite by Polyvinylamine and its Hydrophobically modified derivatives" *Preprints of the 23<sup>rd</sup> IFSCC Congress, Orlando, October 23-26, 2004*.

Lisa Huisenga and Robert Y. Lochhead; "The Development of Combinatorial Methods for Formulation" *Preprints of the 23<sup>rd</sup> IFSCC Congress, Orlando, October 23-26, 2004*.

Christina Edwards, Xiumie Xun, C.E. Hoyle, and Robert Y. Lochhead, "Polymerization of Cubic Liquid Crystal Phase" *Preprints of the 23<sup>rd</sup> IFSCC Congress, Orlando, October 23-26, 2004*.

Naoya Yamato, Daisuke Kaneko and Robert Y. Lochhead, "The Investigation of Sodium N-Acyl-L-glutamate and Cationic Cellulose Interaction" *Preprints of the 23<sup>rd</sup> IFSCC Congress, Orlando, October 23-26, 2004*.

Joan B. Schulman and Robert Y. Lochhead, "A Study of the Adsorption of Hydrophobically Modified Polysaccharides onto Hydrophobic Surfaces and Assessment of the Emulsifying Capabilities of this Class of Materials" *Preprints of the 23<sup>rd</sup> IFSCC Congress, Orlando, October 23-26, 2004*.

Stig E. Friberg and **Robert Y. Lochhead**, 'Emulsions, Microemulsions, Dispersions and Liquid Crystals' Short Course for the American Chemical Society, November 12-14, 2003. Bound Brook, NJ.

**Robert Y. Lochhead**, Expert Level Haircare, Short course for the Society of Cosmetic Chemists, Chicago, IL, November 7, 2003

Camille T. Haynes and **Robert Y. Lochhead**, The Investigation of Macromolecular Intrusion of the Interstices of Cosmetically-important Substrates, *Preprints of the Society of Cosmetic Chemists, National Scientific Meeting, Washington DC*, May 8, 2003.

**R. Y. Lochhead**; "Solution Behavior of Aqueous Solutions of Hydrophobically Modified Polyvinylamine and Dodecytrimethylammonium Bromide" *Preprints of the Society of Cosmetic Chemists, National Meeting, Toronto, Canada*, May 8, 2000

Cynthia F. Welch and **Robert Y. Lochhead** The Effect of Hydrophobically-Modified Hydroxyethylcellulose on the Structure and Rheology of a Model Surfactant System in the Liquid Crystal Regime", *Preprints of the Society of Cosmetic Chemists, Annual Scientific Meeting, New York, NY* (1999).

Maggio, S. V.; D. A. Presken; **R. Y. Lochhead**; "The Solution Behavior of Hydrophobically Modified Polyvinylamine and Dodecyltrimethylammonium Bromide," *Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.)* **1999**, *40*(2), 242.

Manuszak-Guerrini, M.; **R. Y. Lochhead**; W. H. Daly; "Structure and Properties of Quaternary Ammonium Cellulose Derivatives," In *Proceedings of the American Chemical Society, Division of Polymeric Materials: Science and Engineering (PMSE)*, Vol. 79, p 423-424, 1998.

Manuszak-Guerrini, M.; L. Smith-Wright; **R. Y. Lochhead**; "Complexation of aminoalkylcarbamoyl cellulosics and oppositely charged mixed micelles," in *Journal of Society of Cosmetic Chemists*, **48**, pp. 23-40, (January/February 1997).

Manuszak-Guerrini, M.; **R. Y. Lochhead**; L. Smith-Wright; W. H. Daly; "Structure Elucidation of Complexes of Aminoalkylcarbamoyl Cellulosics and Oppositely Charged Mixed Micelles," *Society of Cosmetic Chemists Annual Scientific Seminar Preprints*, p. 13, Boston, MA (May, 1996).

Shannon, P.; **R. Y. Lochhead**; <sup>23</sup>Na NMR Study of Microstructural Effects on Aqueous Polyacid-Polybase Complexation," *Society of Cosmetic Chemists Annual Scientific Seminar Preprints*, p. 16, Boston, MA (May, 1996).

McKay, T.; **R. Y. Lochhead**; "Morphology of ABA Block Copolymers in Aqueous Solution, As Influenced by the Addition of Ionic Cosurfactants," *Society of Cosmetic Chemists Annual Scientific Seminar Preprints*, p. 16, Boston, MA (May, 1996).

Armstrong, K.; **R. Y. Lochhead**; "Protein Adsorption at the Oil/Water Interface: Marine Protein," *Society of Cosmetic Chemists Annual Scientific Seminar Preprints*, p. 16, Boston, MA (May, 1996).

Tisack, M. E.; **R. Y. Lochhead**; C. L. McCormick, G. Cannon; "Oil Emulsification by  $\beta$ -casein, poly(L-aspartic acid), *Manduca sexta* apolipoporphin III, and an Isolated 34kD Soy Protein," *ACS Polymer Preprints*, **37** (1) New Orleans, LA (March 1996).

Manuszak-Guerrini, M.; **R. Y. Lochhead**; L. Smith-Wright; W. H. Daly; "Structure Elucidation of Complexes of Aminoalkylcarbamoyl Cellulosics and Oppositely Charged Mixed Micelles." *ACS Polymer Preprints*, **37** (1), New Orleans, LA (March 1996).

Shannon, P.; **R. Y. Lochhead**; "Polyacid Microstructural Effects in Complexation with Poly(vinyl pyrrolidone)," *ACS Polymer Preprints*, **37** (1), New Orleans, LA, (March 1996).

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**Lochhead, R. Y.**; P. S. Wolfe; "Polymer-Surfactant Interaction in an Uncharged Polysaccharide-Ammonium Lauryl Sulfate System," *Abstracts MAS*, 37, (1992).

**Lochhead, R. Y.**; J. G. Parish; "A Study of the Interaction of an Anionic Surfactant with a Cellulosic Associative Thickener," *Abstracts MAS*, 37, (1992).

**Lochhead, R. Y.**; M. M. Ellis; "Phase Behavior of Aqueous Compositions Containing Cationic Hydrophobically-Modified Hydroxyethyl Cellulose and Ammonium Lauryl Sulfate," *Abstracts MAS*, 37, (1992).

**Lochhead, R. Y.**; G. A. Brooks; "Investigation of the Interaction Between a Cationically-Charged Hydrophobically-Modified Hydroxyethyl Cellulose," *Abstracts MAS*, 37, (1992).

**Lochhead, R. Y.**; A. Wissner; "The Effect of Strong Bases on Human Hair," *Abstracts MAS*, 37, (1992).

**Lochhead, R. Y.**; C. J. Rulison; "Investigation of the Interaction of Poly(isopropyl acrylamide) with Alkyl Sulfates in Aqueous Solution," *Abstracts MAS*, 37, (1992).

**Lochhead, R. Y.**; D. M. Lindsey; "Polymer-Surfactant Interactions in Potential Bioadhesive Systems," *Abstracts MAS*, 37, (1992).

**Lochhead, R. Y.**; M. Powell; "Investigation of the Effect of the Molecular Structure of Organic Amine Neutralizing Bases on Poly(acrylic acid) Ion Expansion in Aqueous Solution," *Abstracts MAS*, 37, (1992).

**Lochhead, R. Y.**; R. Brown; "The Evaluation and Selection of Neutralizers for Poly(acrylic acid) Thickeners," *Abstracts MAS*, 37, (1992).

**Lochhead, R. Y.**; G. E. Cooley; "The Evaluation of Alternative Neutralizing Bases for Carbomers: The Effect of Neutral, Ionically-Dissociated Salt," *Abstracts MAS*, 37, (1992).

**Lochhead, R. Y.**; K. M. Gay; "Investigation of the Molecular Adsorption of Surfactant and Hydrophilic Polymer Aqueous Solutions on Glass and Keratin," *Abstracts MAS*, 37, (1992).

**Lochhead, R. Y.**; K. S. Kwan; "Investigating the Use of a Polymeric Emulsifier to Prepare New Low Volatile Organics Aqueous Coatings," *Abstracts MAS*, 37, (1992).

**Lochhead, R. Y.**; C. F. Edwards; "Identifying the Interactions Between Sodium Dodecyl Sulfate and Hydroxypropylcellulose," *Abstracts MAS*, 37, (1992).

**Lochhead, R. Y.**; W. R. Fron; "An Investigation of the Effect of the Molecular Structure of Neutralizing Amine on the Efficacy of Carbomers as a Gellant for Hydroalcoholic Systems," *Abstracts MAS*, 37, (1992).

## PRESENTATIONS

**Robert Y. Lochhead and Ken Klein**, "Advanced Emulsions" Society of Cosmetic Chemists Course, Newark,NJ, March 8-9,2006.

**Robert Y. Lochhead** and, Lisa R. Huisenga, "A Combinatorial Investigation of the Effects of Order of Addition in the Interaction of Polyelectrolytes with Surfactants", *The Waterborne Conference*, New Orleans, February 24, 2006

**Robert Y. Lochhead**, "The Role of Polymers in Cosmetics: Hair Conditioning and Color", Invited Lecture, Advanced Technology Conference, Miami Florida, February 7,2006.

**Robert Y. Lochhead**, "The Role of Polymers in Cosmetics: Hair Styling", Invited Lecture, Advanced Technology Conference, Miami Florida, February 6,2006.

**Robert Y. Lochhead**, Lisa R. Huisenga, "High Throughout Experimentation Techniques to Probe Mechanism and Guide Formulation of Polymer-Surfactant Systems", *Royal Society of Chemistry and The Society of Chemical Industry Joint Conference on New Developments in Emulsions and Foams*, Manchester, England, December 12-14, 2005.

**Robert Y. Lochhead**, Lisa R. Huisenga, Christina Edwards and Anthony Hill. "A Combinatorial Investigation of the Effects of Order of Addition in the Interaction of Polyelectrolytes with Surfactants", *The Society of Cosmetic Chemists, Annual Meeting*, New York, December 2005

**Robert Y. Lochhead**, Lisa R. Huisenga, "The Investigation of the Effects of Polyelectrolyte Structure and Order of Addition in Complex Coacervate Properties using High Throughput Formulation and Characterization Techniques", *The Materials Research Society, Annual Meeting Boston*, November 28 2005

Lisa R Huisenga; **Robert Y. Lochhead**, "Investigation of the Structure of Polyelectrolyte-Based Complex Coacervates and Effects of Electrolyte Order of Addition." Invited Keynote Lecture, NIST Combinatorial Methods Center Workshop on Polymer Formulations, Gaithersburg MD, October 27-28, 2005.

**Robert Y. Lochhead**, "A Polymer Chemist's View of the Epidermal Barrier," Invited Keynote Lecture at the *Gordon Conference on Mammalian Skin, Massachusetts, August 2005*.

**Robert Y. Lochhead**, Lisa R. Huisenga, Christina Edwards and Anthony Hill. "A Combinatorial Investigation of the Effects of Order of Addition in the Interaction of Polyelectrolytes with Surfactants", *Am. Chem. Soc., Fall Meeting*, of the American Chemical Society Washington DC. 2005,

**Robert Y. Lochhead**, Lisa R. Huisenga, Christina Edwards and Anthony Hill. "A Combinatorial Investigation of the Effects of Order of Addition in the Interaction of Polyelectrolytes with Surfactants", *Am. Chem. Soc., Div. Polym. Materials Science and Engineering, Fall Meeting*, of the American Chemical Society Washington DC. 2005,

**Robert Y. Lochhead**, "Polymers in Cosmetics: Fall Meeting, Washington DC An Introductory Workshop", *Am. Chem. Soc., Div. Polym. Chem , Fall Meeting*, of the American Chemical Society 2005,

Laura Silva, Anna Lee Tonkovich, Dongming Qiu, Krissy Pagnotto, Paul Neagle, **Robert Lochhead**, "Enabling Advanced Emulsions in Microchannel Architecture", *7<sup>th</sup> World Congress of Chemical Engineering, Glasgow, Scotland*, July 10-14, 2005.

**Robert Y. Lochhead**, "The High Throughput Investigation of Polyphenolic Couplers in Biodegradable Packaging Materials," Mississippi Biomass Council Annual Meeting, Jackson , MS, March 2005,

Lisa R Huisenga; Robert Y. Lochhead, "Investigation of the Structure of Polyelectrolyte-Based Complex Coacervates and Effects of Electrolyte Order of Addition." Invited Keynote Lecture, NIST Combinatorial Methods Center Workshop on Polymer Formulations, Gaithersburg MD, October 27-28, 2005.

Robert Y. Lochhead, "A Polymer Chemist's View of the Epidermal Barrier," Invited Keynote Lecture at the *Gordon Conference on Mammalian Skin, Massachusetts, August 2005*.

Lisa Huisenga, Robert Y. Lochhead, '*The Effects of Electrolyte Order of Addition on Oppositely Charged Polymer-Surfactant Coacervate Formation in Concentrated Systems*'; Society of Cosmetic Chemists Annual Scientific Conference, Las Vegas, June 2-3, 2005

Christina Edwards, Robert Y. Lochhead, '*The Impacts of a Monovalent Electrolyte on Complex Coacervate Formation*' Society of Cosmetic Chemists Annual Scientific Conference, Las Vegas, June 2-3, 2005

Tara Waller, Robert Y. Lochhead, '*An Investigation of the Cationic Guar-Anionic Surfactant Interactions in Concentrated Systems*'; Society of Cosmetic Chemists Annual Scientific Conference, Las Vegas, June 2-3, 2005

Anthony Hill, Robert Y. Lochhead, '*An Investigation of the Effect of Surfactant EOlength on Coacervate Formation*'; Society of Cosmetic Chemists Annual Scientific Conference, Las Vegas, June 2-3, 2005

Ashley Cox, Robert Y. Lochhead, '*A Study of the Wetting and Thermal Properties of Aluminum Soap Films*', Society of Cosmetic Chemists Annual Scientific Conference, Las Vegas, June 2-3, 2005

Lauren Goodman, Robert Y. Lochhead, '*The influence of Hydrophobically-Modified Hydroxyethyl Cellulose on Lamellar Phase Structures*'; Society of Cosmetic Chemists Annual Scientific Conference, Las Vegas, June 2-3, 2005

Marsha Cole, Robert Y. Lochhead, '*Investigation of the Effects of Molecular Weight and Hydrophobic Modification on Poly(vinylpyrrolidone) Solubility*'; Society of Cosmetic Chemists Annual Scientific Conference, Las Vegas, June 2-3, 2005.

Nathaniel Follet, Robert Y. Lochhead, '*Design of a Stimuli-Responsive Coupler for a Smart Biodegradable Nanocomposite*' Society of Cosmetic Chemists Annual Scientific Conference, Las Vegas, June 2-3, 2005.

**Robert Y. Lochhead**, 'Recent Advances of Polymers in Cosmetics', Invited Keynote Lecture, Advanced Technology Conference, Berlin, April 2005.

**Robert Y. Lochhead**, Stephen R. Jones, Virginia Smith, "*The High Throughput Investigation of Polyphenolic Couplers in Biodegradable Packaging Materials*" The Third Japan-U.S. Workshop on Combinatorial Materials Science and Technology, Okinawa, Japan, December 7-10 2004

Stig E. Friberg and **Robert Y. Lochhead**, 'Emulsions, Microemulsions, Dispersions and Liquid Crystals' Short Course for the American Chemical Society, 228<sup>th</sup> ACS National Meeting, Philadelphia PA, 2004

**Lochhead, R.Y.** Polymers in Cosmetics: Recent Advances, Ciba Corporation, Bradford, England, September 24, 2004.

**Lochhead, R.Y.** Polymers in Cosmetics: Recent Advances, Noveon Corporation, Brecksville, OH, June 23, 2004.

**Lochhead, R.Y.**; McConnell-Boykin, C.L.; Jarrett, W.; Haynes, C. T.; Interaction of Hydrophilic and hydrophobically modified polyelectrolytes with smectite clays, International Polyelectrolytes Conference, The University of Massachusetts at Amherst, May 16, 2004.

**Lochhead, R.Y.** Continuing Education Course on the role of polymers in cosmetic formulations, Society of Cosmetic Chemists', North Carolina State University, May 15, 2004.

**Lochhead, R.Y.** Continuing Education Course on Hair Technology, Wilmington, DE, May 3, 2004.

**Lochhead, R.Y.** Polymers in Cosmetics: Recent Advances, Ciba Corporation, Tarrytown, N.Y., May 26, 2004.

**Lochhead, R.Y.**; "Why Liquid Crystals are our Friends", Invited lecture, Society of Cosmetic Chemists' Annual Scientific Seminar, May 5, 2004

Xun, Xiumei ; **Lochhead, R.Y.**; Nano-assembles by directed synthesis in cubic lyotropic mesophases, Society of Cosmetic Chemists' Annual Scientific Seminar, May 5, 2004

Deepak, Rahil; **Lochhead, R.Y.**; Towards an Understanding of Complex Stimuli Responsive Formulations , Society of Cosmetic Chemists' Annual Scientific Seminar, May 5, 2004

Edwards, C; **Lochhead, R.Y.**; Towards an Understanding of Complex Stimuli Responsive Formulations , Society of Cosmetic Chemists' Annual Scientific Seminar, May 5, 2004

Jones, S.R.; **Lochhead, R.Y.**; Towards the Design of Biodegradable Packaging Materials for Cosmetic Applications, Society of Cosmetic Chemists' Annual Scientific Seminar, May 5, 2004

Huisenga, L.R.; **Lochhead, R.Y.**; The Development of Combinatorial Methods for Formulation of Polyelectrolyte-based Complex Coacervates, Society of Cosmetic Chemists' Annual Scientific Seminar, May 5, 2004

Smith, V: **Lochhead, R.Y.** ; Formation of Biodegradable Composites for Packaging Applications, Society of Cosmetic Chemists' Annual Scientific Seminar, May 5, 2004

DeLaine, A; **Lochhead, R.Y.**; Component interactions for biodegradable nanocomposites, Society of Cosmetic Chemists' Annual Scientific Seminar, May 5, 2004

**Lochhead, R.Y.**; Klein, K. ; Advanced Emulsions Short Course, Society of Cosmetic Chemists' Annual Scientific Seminar, May 5, 2004

**Lochhead, R.Y.**; "Why Liquid Crystals are our Friends", Invited lecture, Society of Cosmetic Chemists' Annual Scientific Seminar, May 5, 2004

**Lochhead, R.Y.** ; Polymer Montmorillonite Interaction, Southern Clay Products, Gonzales, TX, April 20, 2004

**Lochhead, R.Y.** ; Introducing New Materials to Cosmetics: Case Studies, Society of Cosmetic Chemists, Memphis, April 14, 2004

Huisenga, L.R.; **Lochhead, R.Y.**; Welch, C; Maggio, S; McKay, T; "The development of combinatorial methods for formulation of polymer surfactant systems", Abstracts of Papers, 227<sup>th</sup> ACS National Meeting, Anaheim, CA, 2004

Friberg, S.E.; **Lochhead, R.Y.**; Welch, C; "An investigation of the interaction of hydrophobically modified hydroxyethylcellulose with lamellar and hexagonal lyotropic liquid crystal phases, Abstracts of Papers, 227<sup>th</sup> ACS National Meeting, Anaheim, CA, 2004

**Lochhead, R.Y.**; Schumann J.B.; A study of the adsorption of hydrophobically modified dextrin at the oil/water interface, Abstracts of Papers, 227<sup>th</sup> ACS National Meeting, Anaheim, CA, 2004,

Haynes, C.A.; **Lochhead, R.Y.**; The investigation of macromolecular intrusion of nanoscale interstices, Abstracts of Papers, 227<sup>th</sup> ACS National Meeting, Anaheim, CA, 2004

Stig E. Friberg and **Robert Y. Lochhead**, 'Emulsions, Microemulsions, Dispersions and Liquid Crystals' Short Course for the American Chemical Society, November 12-14, 2003 Bound Brook, NJ.

**Robert Y. Lochhead**, Expert Level Haircare, Short course for the Society of Cosmetic Chemists, Chicago, IL, November 7, 2003

**Robert Y. Lochhead**, 'Emulsions, Microemulsions, Dispersions and Liquid Crystals' Short Course for the Wrigley Company, November 6, Chicago, IL.

Lisa R. Huisenga and **Robert Y. Lochhead**, Investigation of the structure of polyelectrolyte-based complex coacervates, 226<sup>th</sup> National Meeting of the American Chemical Society New York, NY, Sept. 7-11, 2003.

Kyle M. Price, Camille T. Haynes and **Robert Y. Lochhead**, Polymer-particle interactions in aqueous systems: poly-N-vinylformamide, polyvinylamine, its derivatives and montmorillonite, 226<sup>th</sup> National Meeting of the American Chemical Society New York, NY, Sept. 7-11, 2003.

Naoya Yamato, Daisuke Kaneko and **Robert Y. Lochhead**, The Investigation of Sodium N-Acyl-L-glutamate and Cationic Cellulose Interaction, 226<sup>th</sup> National Meeting of the American Chemical Society New York, NY, Sept. 7-11, 2003.

Cynthia F. Welch and **Robert Y. Lochhead**, The Effect of Hydrophobically-Modified Hydroxyethylcellulose on the Structure and Rheology of a Model Surfactant System in the Liquid Crystal Regime, , 226<sup>th</sup> National Meeting of the American Chemical Society New York, NY, Sept. 7-11, 2003.

Camille T. Haynes and **Robert Y. Lochhead**, The Investigation of Macromolecular Intrusion of the Interstices of Cosmetically-important Substrates, 226<sup>th</sup> National Meeting of the American Chemical Society New York, NY, Sept. 7-11, 2003.

Lisa R. Huisenga and **Robert Y. Lochhead**, Investigation of the structure of polyelectrolyte-based complex coacervates, National Scientific Meeting of the Society of Cosmetic Chemists, May 8, 2003, Washington DC.

Camille T. Haynes and **Robert Y. Lochhead**, The Investigation of Macromolecular Intrusion of the Interstices of Cosmetically-important Substrates, *Society of Cosmetic Chemists*, National Scientific Meeting, Washington DC, May 8, 2003.

Lisa Huisenga and **Robert Y. Lochhead**, "Investigation of the structure of polyelectrolyte-based complex coacervates", 225<sup>TH</sup> National Meeting of the American Chemical Society, March 24, 2003

Shelley Gallender and **Robert Y. Lochhead**, "An investigation of the emulsifying capabilities of amphiphatic titanium dioxide particles" , 225<sup>TH</sup> National Meeting of the American Chemical Society, March 24, 2003

Camille T Haynes and **Robert Y. Lochhead**, " Interactions of model water-soluble polymers at montmorillonite surfaces," 225<sup>TH</sup> National Meeting of the American Chemical Society, March 24, 2003

**R.Y. Lochhead**, 'An Overview of Water Soluble Polymers", The Procter & Gamble Community of Practice Symposium, Rusham Park, Egham, England , March 13, 2003

**R.Y.Lochhead**, ‘The Role of Polymeric Thickeners in Skin Care Emulsions”, The Procter &Gamble Community of Practice Symposium, Rusham Park, Egham, England , March 14, 2003

**R.Y.Lochhead**, ‘The Intrusion of Polymers into Nanospaces”, The Procter &Gamble Community of Practice Symposium, Schwalbach, Germany, March 11, 2003

**R.Y.Lochhead**, ‘Wetting, Spreading and Molecular Adhesion to Polmer Substrates”, The Procter &Gamble Community of Practice Symposium, Schwalbach, Germany, March 11, 2003

**R.Y.Lochhead**, ‘Conditioning Polymers”, The Procter &Gamble Community of Practice Symposium, Schwalbach, Germany, March 10, 2003

**R.Y.Lochhead**, ‘Hairspray Polymere”, The Procter &Gamble Community of Practice Symposium, Schwalbach, Germany, March 10, 2003

**R.Y.Lochhead**, ‘Polymers in Cosmetics”, The Procter &Gamble Community of Practice Symposium, Schwalbach, Germany, March 10, 2003.

**R.Y.Lochhead**, ‘Latex Selection in Waterborne Coatings”, Waterborne Symposium, New Orleans, LA, February 23-25, 2003.

**R.Y.Lochhead**, ‘The Selection of Associative Thickeners”, Waterborne Symposium, New Orleans, LA, February 23-25, 2003.

**R.Y.Lochhead**, ‘Practical Applications of Water-soluble Polymers”, Waterborne Symposium, New Orleans, LA, February 23-25, 2003.

**R.Y.Lochhead**, ‘The Physical Principles of Formulation”, Waterborne Symposium, New Orleans, LA, February 23-25, 2003.

**R.Y.Lochhead**, ‘ Formulation: where we’ve been and where we are going”, SCC, West Orange, NJ, October 2, 2002. This won the best presentation award for the year 2002.

**R.Y.Lochhead** and C.T. Haynes, “ Designing Couplers for nanocomposites: the role of polymer adsorption”, 224th ACS National Meeting , Boston, August 22, 2002

C.T. Haynes and **R.Y.Lochhead**, “Interactions of watersoluble polymers with montmorillonite clay for biodegradable nanocomposite applications”, 224th ACS National Meeting , Boston, August 21, 2002

S.R. Jones and **R.Y.Lochhead**, “Blends of polycaprolactone and poly(vinylphenol) and its low molecular weight model, phenol: Hydrogen-bond formation. ”, 224th ACS National Meeting , Boston, August 20, 2002

A.M. Urbam, C.T. Haynes and **R.Y.Lochhead**, “Adsorption of hydrophobically-modified poly(vinylamine) derivatives to montmorillonite”, 224th ACS National Meeting , Boston, August 19, 2002

C.T. Haynes and **R.Y.Lochhead**, “ Investigations of water-soluble polymer adsorption to montmorillonite clay as a function of solution pH”, 224th ACS National Meeting , Boston, August 18, 2002

**R.Y. Lochhead**, “Nanostructural Considerations in the Formulation of Liquids and Gels”, Global e-lecture, The Procter & Gamble Company, June 2002.

**R.Y.Lochhead**; “ An Introduction to Surfactants for Chemists”, University of Southern Mississippi Short Course, June 11, 2002.

S.R. Jones and R.Y. Lochhead, "Higher Performance Biodegradable Polymeric Materials: Blends of poly(6-caprolactone) with both poly(vinylphenol) and its low molecular weight model, phenol: Hydrogen Bond Formation", Presented at the Society of Cosmetic Chemists Annual Scientific Seminar, San Antonio, TX, May 9, 2002. **This won the best student presentation award.**

C.T. Haynes and R.Y. Lochhead, "Investigation of Macromolecular Intrusion of the Interstices of Cosmetically-Important Substrates", Presented at the Society of Cosmetic Chemists Annual Scientific Seminar, San Antonio, TX, May 9, 2002.

**R.Y. Lochhead** and K. Klein (Cosmetech), "How to set up a modern formulation laboratory", Presented at the Society of Cosmetic Chemists Annual Scientific Seminar, San Antonio, TX, May 9, 2002.

**R.Y. Lochhead**, "Frontiers in Equipment", Presented at the Society of Cosmetic Chemists Annual Scientific Seminar, San Antonio, TX, May 9, 2002.

**R.Y. Lochhead**, "Water Soluble Polymers –2 Day Course", Xavier University, Procter &Gamble, Cincinnati, Ohio, March 21-22, 2002.

**R.Y. Lochhead**, "Latex Selection in Formulating Waterborne Coatings", Reformulating Short Course, Symposium on waterborne, High Solids and Powder Coatings, New Orleans Feb 5, 2002.

**R.Y. Lochhead**, " Hydrophilic Polymer Rheology Modifiers and their Role in Personal Care Formulation", Plenary Lecture, The Procter &Gamble Technology Conference, January 29, 2002.

**R.Y. Lochhead**, "Polymer Surfactant Interaction", Presented at the "Physical Principles of Formulation" New Orleans, LA, , 2001

**R.Y. Lochhead**, "An Introduction to Associative Thickeners" Presented at the "Modern Coatings" New Orleans, LA, , 2001.

**R.Y. Lochhead**, "Formulating with Associative Thickeners, Presented at the "Reformulating for Waterborne" New Orleans, LA, 2001. R.Y. Lochhead, K. Klein; "*Emulsions Short Course*", Society of Cosmetic Chemists, Newark, New Jersey, July 17, 2001

**R.Y. Lochhead**; "*Principles of Polymer Science for Formulators*", Society of Cosmetic Chemists, Newark, New Jersey, July 19, 2001

**R.Y. Lochhead**; "Surfactants and Emulsions" Thetadyne Course, Charlotte, NC, May 8, 2000

**R.Y. Lochhead**; C.F. Welch; "Effect of Hydrophobically-Modified Hydroxyethylcellulose on the Phase Morphology of a Model Surfactant Mesophases System in the Liquid Crystal Regime, *Fall Meeting of the American Chemical Society, Chicago*; 2001.

**R.Y. Lochhead**; C.L. McConnell- Boykin; C. Haynes; "Interaction of Hydrophilic Polymers with Smectite Clays, *Fall Meeting of the American Chemical Society, Chicago*; 2001.

**R.Y. Lochhead**; T.L. McKay; "Behavior of Mixtures of Poloxamers and Alkyl Sulfates in Lyotropic Liquid Crystalline Phases, *222<sup>nd</sup> ACS National Meeting, Chicago Illinois, Abstracts of the Division of Colloid and Surface Chemistry*, August 26-30, 2001;

**C.T. Haynes; R.Y. Lochhead**; "Probing the Interactions of Model Polyelectrolytes and Montmorillonite Clay, *222<sup>nd</sup> ACS National Meeting, Chicago Illinois, Abstracts of the Division of Colloid and Surface Chemistry*, August 26-30, 2001;

**R.Y. Lochhead**; C.F. Welch; "Effect of Hydrophobically-Modified Hydroxyethylcellulose on the Phase Morphology of a Model Surfactant Mesophases System in the Liquid Crystal Regime, 222<sup>nd</sup> ACS National Meeting, Chicago Illinois, Abstracts of the Division of Colloid and Surface Chemistry, August 26-30, 2001;

**R.Y. Lochhead**, K. Klein; "Emulsions Short Course", Society of Cosmetic Chemists, Montreal, Canada, September 10, 2001

**R.Y. Lochhead**; "Fundamentals of Interface Adhesion: Recent Advances in Methodology and Measurement", Plenary Lecture, Annual Conference of the Adhesives and Sealants Council, New Orleans, October 23, 2001.

Yamato, N.; D. Kaneko; **R. Y. Lochhead**; "The Investigation of Sodium L-Acyl-N-Glutamate/Cationic Cellulose Interaction," Proceedings of the International Conference on Colloid and Surface Science, Tokyo, Japan, November 5-8, 2000.

**Lochhead, R. Y.**; "The Role of Polymer-Surfactant Interaction in the Formation of Lyotropic Surfactant Mesophases and Stabilization of Oil-in Water Emulsions," JOCS/AOCS World Congress, Kyoto Japan, (October 22-25, 2000). Stable

**Lochhead, R. Y.**; C. Welch; "The Effect of Hydrophobically-Modified Hydroxyethylcellulose on the Structure and Rheology of a Model Surfactant System in the Liquid Crystal Regime," Formulations Forum 2000, The Association of Formulation Chemists, September 2000.

**Robert Y. Lochhead**, "Polymers in the Materials Curriculum", Gordon Research Conference on Materials Education, Plymouth, NH, August 1, 2000

Nad'a Spisakova, **Robert Y. Lochhead** and Stacey V. Maggio; "The solution behavior of hydrophobically modified polyvinylamine and dodecyltrimethylammonium bromide, ACS International Colloid Meeting,, Lehigh, PA, July 2000

**Robert Y. Lochhead** and Tonya L. McKay, "Behavior in Mixtures of Poloxamers and Alkyl Sulfates and Sulfosuccinates in Lyotropic Liquid Crystalline Phases", ACS International Colloid Meeting,, Lehigh, PA, July 2000

**Robert Y. Lochhead** and Cynthia F. Welch, "The Effect of Hydrophobically-Modified Hydroxyethylcellulose on the Structure and Rheology of a Model Surfactant System in the Liquid Crystal Regime" ACS International Colloid Meeting,, Lehigh, PA, July 2000

**R.Y. Lochhead** and Cynthia Welch, "The Influence of Hydrophobically Modified Hydroxyethylcellulose on the Structure and Rheology of a Model Surfactant System in the Liquid Crystal Regime", ACS International Colloid Meeting,, Lehigh, PA, July 2000

**R.Y. Lochhead**, and McConnell-Boykin, C.L.; "An Investigative Study of Polymer Adsorption to Montmorillonite" ACS International Colloid Meeting,, Lehigh, PA, July 2000

**R.Y. Lochhead**; " Emulsions" Society of Cosmetic Chemists, Newark, NJ, June 7-8, 2000

**R. Y. Lochhead**; "Solution Behavior of Aqueous Solutions of Hydrophobically Modified Polyvinylamine and Dodecyltrimethylammonium Bromide" Society of Cosmetic Chemists, National Meeting, Toronto, Canada, May 8, 2000

Yamato, N.; R. Boudreaux; **R. Y. Lochhead**; "The Investigation of Sodium L-Acyl-N-Glutamate/Cationic Cellulose Interaction," Society of Cosmetic Chemists, National Meeting, Toronto, Canada, May 8, 2000

**R.Y. Lochhead;** "Surfactants and Emulsions" Thetadyne Course, Charlotte, NC, May 2, 2000

Tisack-Kathman, M.; C. L. McCormick; G. C Cannon; **R. Y. Lochhead;** "Polymeric Emulsifiers: Seeking the Answer to Molecular Fabrication by Probing Nature's Secrets," ACS Division of Colloid and Surface Chemistry, 219th ACS National Meeting, San Francisco, CA, March 2000.

**R.Y. Lochhead;** "Polymers at the University of Southern Mississippi" ACS Chemical Education Division, 219th ACS National Meeting, San Francisco, CA, March 2000

**R.Y. Lochhead,** and McConnell-Boykin, C.L.; "An Investigative Study of Polymer Adsorption to Montmorillonite in Coupling Nanocomposites" ACS PMSE Division, 219th ACS National Meeting, San Francisco, CA, March 2000

**R.Y. Lochhead,** and McConnell-Boykin, C.L.; "An Investigative Study of Polymer Adsorption to Clay" ACS PMSE Division, 219th ACS National Meeting, San Francisco, CA, March 2000

**R.Y. Lochhead,** "Polymer Association" Presented at the "Waterborne and Watersoluble Polymers", LA, March 7, 2000.

**R.Y. Lochhead,** "Formulating with Associative Thickeners, Presented at the "Reformulating for Waterborne" New Orleans, LA, March 7, 2000.

**R.Y. Lochhead,** "An Introduction to Associative Thickeners" Presented at the "Modern Coatings" New Orleans, LA, March 6, 2000.

**R.Y. Lochhead,** "Polymer and Particle Dispersions' Presented at the "physical Principles of Formulation" New Orleans, LA, March 5, 2000.

**R.Y. Lochhead** and Cynthia Welch, "The Influence of Hydrophobically Modified Hydroxyethylcellulose on the Structure and Rheology of a Model Surfactant System in the Liquid Crystal Regime", Roger Porter Memorial Symposium, Asilomar Conference, CA, February 6, 2000

**R.Y. Lochhead,** "Roger Porter's Influence on the University of Southern Mississippi," Roger Porter Memorial Symposium, Asilomar Conference, CA, February 6, 2000

Cynthia F. Welch and **Robert Y. Lochhead** The Effect of Hydrophobically-Modified Hydroxyethylcellulose on the Structure and Rheology of a Model Surfactant System in the Liquid Crystal Regime", Society of Cosmetic Chemists Annual Scientific Meeting, New York, NY (1999).

**Lochhead, R. Y.;** "Polymer Complex Formulation and the Fundamentals of Polymer Surfactant Interaction," The Physical Principles of Formulating with Polymer Solutions and Blends Short Course, New Orleans, LA (February 1999).

**Lochhead, R. Y.;** "Stability of Latex," Practical Emulsion Polymerization Short Course, New Orleans, LA (February 1999).

**Lochhead, R. Y.;** "Selection of Associative Thickeners," Modern Coatings Technology Short Course, New Orleans, LA (February 1999).

**Lochhead, R. Y.;** "New Technology for Skin, Hair, and Fragrance," Spring Educational Seminar, Society of Cosmetic Chemists, New York, (April 1999). Invited Plenary Lecture

**Lochhead, R. Y.**; R. Boudreux; S. Maggio; "Phase Behavior of Hydrophobically Modified Polyelectrolyte/Surfactant System," Society of Cosmetic Chemists Annual Scientific Seminar, Chicago, IL (May 5-7, 1999).

**Lochhead, R. Y.**; A. Marks; C. M. Boykin; "Copolymer Adsorption onto Montmorillonite Clay," Society of Cosmetic Chemists Annual Scientific Seminar, Chicago, IL (May 5-7, 1999).

**Lochhead, R. Y.**; D. Presken; S. Maggio; "Viscosity Studies of Surfactants on Hydrophobically Modified Polyelectrolyte Solutions," Society of Cosmetic Chemists Annual Scientific Seminar, Chicago, IL (May 5-7, 1999).

**Lochhead, R. Y.**; "Polymeric Emulsifiers," Omni-Tech International, Philadelphia, PA (1998).

Manuszak-Guerrini, M.; **R. Y. Lochhead**; W. H. Daly; "Structure and Properties of Quaternary Ammonium Cellulose Derivatives," American Chemical Society, Division of Polymeric Materials: Science and Engineering (PMSE), Boston, MA, (1998).

McConnell-Boykin, C.; **R. Y. Lochhead**; "Determining the Nature of Clay/Polymer Interactions," American Chemical Society, Colloid and Surface Science Division, Boston, MA (1998).

McConnell-Boykin, C.; **R. Y. Lochhead**; "Investigating the Bound Fraction of Polyacrylamide Copolymers Adsorbed onto Montmorillonite Clay," American Chemical Society, Colloid and Surface Science Division, Boston, MA (1998). *National Best Paper Award*

Schuman, J.; **R. Y. Lochhead**; "Properties of Hydrophobically Modified Polysaccharides," American Chemical Society, Colloid and Surface Science Division, Boston, MA (1998).

**Lochhead, R. Y.**; "Understanding the Mechanism of Polymeric Emulsifiers," IBC's International Conference on Surfactants, Short Hills, NJ, (1998).

Maggio, S.; **R. Y. Lochhead**; "pH Effects on the Phase Behavior of Dodetyltrimethylammonium Bromide and Polyvinylamine Solutions," American Chemical Society, Colloid and Surface Science Symposium, Pennsylvania State University, (1998).

McConnell-Boykin, C; **R. Y. Lochhead**; "Exploring the Nature of Polymer Adsorption onto Clay Surfaces Using Infrared Spectroscopy," American Chemical Society, Colloid and Surface Science Symposium, Pennsylvania State University, (1998).

Maggio, S.; **R. Y. Lochhead**; "pH Effects on the Phase Behavior of Dodetyltrimethylammonium Bromide and Polyvinylamine Solutions," Society of Cosmetic Chemists, Seattle, WA (1998). *National Best Paper Award*

**Lochhead, R. Y.**; "Applications of Water-Soluble and Swellable Polymers/Colloidal Protection, Flocculation, Absorption, and Adhesion," Water-Soluble/Water-Borne Polymers Short Course, New Orleans, LA (1998).

**Lochhead, R. Y.**; "Selection of Associative Thickeners," Modern Coatings Technology Short Course, New Orleans, LA (1998)

**Lochhead, R. Y.**; "Stability of Latex," Practical Emulsion Polymerization Short Course, New Orleans, LA (1998).

**Lochhead, R. Y.**; "Surfactant Micelles, Liquid Crystals and Structured Liquids," The Physical Principles of Formulation, Part II: Formulating with Surfactants Short Course, New Orleans, LA (1998).

**Lochhead, R. Y.**; "Wetting, Spreading and Adhesion-The Science of Interfaces," The Physical Principles of Formulation, Part II: Formulating with Surfactants Short Course, New Orleans, LA (1998).

**Lochhead, R. Y.**; "Hair Spray Resins of the Future," Advanced Technology Conference, Miami, FL (1998)

**Lochhead, R. Y.**; C. McConnell; "The Interaction of Ionic and Nonionic Water-Soluble Polymers with Sodium Montmorillonite," American Chemical Society, Las Vegas, NV (1997).

**Lochhead, R. Y.**; S. V. Maggio; "Polymer-Surfactant Interaction in the Concentrated Regime," American Chemical Society, Las Vegas, NV (1997).

**Lochhead, R. Y.**; M. Tisack; "Apolipophores - Nature's Emulsifiers," American Chemical Society, San Francisco, CA (1997).

**Lochhead, R. Y.**; C. McConnell; "The Interaction of Water-Soluble Polymers with Sodium Montmorillonite," American Chemical Society, San Francisco, CA (1997).

**Lochhead, R. Y.**; C. McConnell; "Clay-Polymer Interaction," Society of Cosmetic Chemists, Nashville, TN (May 1997).

**Lochhead, R. Y.**; S. V. Maggio; "Poly(vinylanine) Interaction with Cationic Surfactants," Society of Cosmetic Chemists, Nashville, TN (May 1997)

**Lochhead, R. Y.**; T. McKay; "Mesomorphic Phase Diagrams for the Ternary System Dodecanoic Acid/Water/Poloxamer," Society of Cosmetic Chemists, Nashville, TN (May 1997).

**Lochhead, R. Y.**; J. Schuman; "An Evaluation of Hydrophobically Modified Hydroxyethylcellulose as an Emulsion Stabilizer," Society of Cosmetic Chemists, Nashville, TN (May 1997).

**Lochhead, R. Y.**; M. Tisack; "The Evaluation of Apolipophorins as Oil/Water Emulsifiers," Society of Cosmetic Chemists, Nashville, TN (May, 1997). *Best Poster Award*

**Lochhead, R. Y.**; "Hair Fixative Polymers," at Advanced Technology Conference, Düsseldorf, Germany. (May 3, 1997).

**Lochhead, R. Y.**; "The Effect of Polyelectrolyte Microstructure on Ion Association Properties," American Chemical Society National Meeting, Las Vegas, NV (September 9, 1997).

**Lochhead, R. Y.**; Formulations Forum '97, (September, 1997).

**Lochhead, R. Y.**; "Emulsions," at Society of Cosmetic Chemists Annual Conference, New York, NY. (December 3, 1997)

**Lochhead, R. Y.**; "Expert Hair Care," Short Course for the Society of Cosmetic Chemists, New York, NY (November 8, 1996)

Manuszak-Guerrini, M.; **R. Y. Lochhead**; L. Smith-Wright; W. H. Daly; "Structure Elucidation of Complexes of Aminoalkylcarbamoyl Cellulosics and Oppositely Charged Mixed Micelles," Society of Cosmetic Chemists Annual Scientific Seminar, Boston, MA (May, 1996).

Shannon, P.; **R. Y. Lochhead**; <sup>23</sup>Na NMR Study of Microstructural Effects on Aqueous Polyacid-Polybase Complexation," Society of Cosmetic Chemists Annual Scientific Seminar, Boston, MA (May, 1996). *Shaw Mudge Best Paper Award*

McKay, T.; **R. Y. Lochhead**; "Morphology of ABA Block Copolymers n Aqueous Solution, As Influenced by the Addition of Ionic Cosurfactants," Society of Cosmetic Chemists Annual Scientific Seminar, Boston, MA (May, 1996).

Armstrong, K.; **R. Y. Lochhead**; "Protein Adsorption at the Oil/Water Interface: Marine Protein," Society of Cosmetic Chemists Annual Scientific Seminar, Boston, MA (May, 1996).

**Lochhead, R. Y.**; "Industry-University Interaction," Polymer Science Industrial Advisory Committee, Hattiesburg, MS, (April 12, 1996).

**Lochhead, R. Y.**; K. Klein; "Advanced Emulsion Technology," Society of Cosmetic Chemists Continuing Education Program, Marina Del Rey, CA (April 1-2, 1996).

McConnell, C.; **Lochhead, R. Y.**; "An Investigative Study of Polymer Adsorption onto Montmorillonite Clay," ACS National Meeting, New Orleans, LA, (March 1996).

**Lochhead, R. Y.**; "University-Industry Interactions," ACS National Meeting, Plenary Presentation, New Orleans, LA, (March 1996).

P. Shannon; **R. Y. Lochhead**; "Polyacid Microstructural Effects in Complexation with Poly(vinyl pyrrolidone)," ACS National Meeting, New Orleans, LA, (March 1996).

Manuszak-Guerrini, M.; **R. Y. Lochhead**; L. Smith-Wright; W. H. Daly; "Structure Elucidation of Complexes of Aminoalkylcarbamoyl Cellulosics and Oppositely Charged Mixed Micelles," ACS National Meeting, New Orleans, LA, (March 1996).

Welch, C. E.; **R. Y. Lochhead**; "Investigations of Bicontinuous Cubic Liquid Crystalline Phases," ACS National Meeting, New Orleans, LA (March 1996).

Schuman, J. B.; **R. Y. Lochhead**; "Oil-water Emulsification Efficacy of Hydrophobically Modified Amylose, Glycogen, and Dextran," ACS National Meeting, New Orleans, LA (March 1996).

McKay, T. L.; **R. Y. Lochhead**; "Liquid Crystalline Behavior of Poly(ethylene oxide)-poly(propylene oxide)-poly(ethylene oxide) Triblock Copolymers in Aqueous Solution, as Influenced by Small-Molecule Cosurfactants," ACS National Meeting, New Orleans, LA (March 1996).

**Lochhead, R. Y.**; "The Principles of Formulating with Surfactants," in short course: "The Physical Principles of Formulation," held with the 23rd Waterborne, High Solids & Powder Coatings Symposium, New Orleans, LA, (February 1996).

**Lochhead, R. Y.**; "Phase Diagrams Formulation Guides," in short course: "The Physical Principles of Formulation," held with the 23rd Waterborne, High Solids & Powder Coatings Symposium, New Orleans, LA, (February 1996).

**Lochhead, R. Y.**; "Polymer Blends," in short course: "The Physical Principles of Formulation," held with the 23rd Waterborne, High Solids & Powder Coatings Symposium, New Orleans, LA, (February 1996).

**Lochhead, R. Y.**; "Nanostructured Materials," in short course: "The Physical Principles of Formulation," held with the 23rd Waterborne, High Solids & Powder Coatings Symposium, New Orleans, LA, (February 1996).

**Lochhead, R. Y.**; "Mesomorphic Structures in Polymers," in short course: "The Physical Principles of Formulation," held with the 23rd Waterborne, High Solids & Powder Coatings Symposium, New Orleans, LA, (February 1996).

Armstrong, K.; J. Lamonte; **R. Y. Lochhead**; "The Study of the Mechanism of Hair Cleaners and Conditioners," Mississippi Academy of Sciences, Jackson, MS, (February 23, 1996).

Robbins, E. M.; **R. Y. Lochhead**; "An Investigation of Hydrophobically-Modified Starches for Use as Polymeric Emulsifiers," Mississippi Academy of Sciences, Jackson, MS, (February 22, 1996).

Sanford, W.; M. Tisack; **R. Y. Lochhead**; R. Bateman; "Emulsification Properties of Menhaden Fish Protein," Mississippi Academy of Sciences, Jackson, MS (February 22, 1996).

**Lochhead, R. Y.**; Rheox Corp. - "The Importance of Mesomorphic Structure in Polymer Solutions" Jan. 1996.

**Lochhead, R . Y.**; C. J. Rulison; "The Effect of Diffusion of Macromolecular Emulsifiers on Interfacial Adsorption," ACS-Colloid & Surface Science Meeting, Utah, (June 1995).

**Lochhead, R. Y.**; "Polymeric Emulsifiers," OCAC Seminar, (May 26, 1995).

**Lochhead, R. Y.**; C. J. Rulison; M. E. Tisack; "The Mechanism of Microgel Polymeric Emulsifiers," SCC Annual Scientific Seminar, Cleveland, OH (May 5, 1995). *Shaw Mudge Best Paper Award*

**Lochhead, R. Y.**; S. D. Villafanez; "The Micellar Aggregation of Associating Polymers," SCC Annual Scientific Seminar, Cleveland, OH (May 5, 1995). (Invited Paper)

**Lochhead, R. Y.**; C. McConnell; "An Investigative Study of Polyelectrolytes Adsorbed to Montmorillonite Clay for Rheological Control of Aqueous Systems," SCC Annual Scientific Seminar, Cleveland, OH (May 4, 1995).

**Lochhead, R. Y.**; P. Shannon; "Comparative Coacervation Studies of Poly(Acrylic Acid) and Poly(Etylene-Maleic Anhydride)," SCC Annual Scientific Seminar, Cleveland, OH (May 4, 1995).

**Lochhead, R. Y.**; S. D. Villafanez; "Phase Behavior of Aqueous Solutions of Sulfonated Poly(styrene-b-hydrogenated butadiene)," SCC Annual Scientific Seminar, Cleveland, OH (May 4, 1995).

**Lochhead, R. Y.**; C. F. Welch; "Investigations of Bicontinuous Cubic Liquid Crystalline Phases," SCC Annual Scientific Seminar, Cleveland, OH (May 4, 1995).

**Lochhead, R. Y.**; "Associative Thickeners," in the short course, "Coatings," held with the 22nd Waterborne, Higher-Solids, and Powder Coatings Symposium, New Orleans, LA (February 21, 1995).

**Lochhead, R. Y.**; "Principles of Adsorption and Colloid Stabilization," in the short course "Watersoluble Polymers," held with the 22nd Waterborne, Higher-Solids, and Powder Coatings Symposium, New Orleans, LA (February 21, 1995).

**Lochhead, R. Y.**; "Polymeric Emulsifiers," SCC California Chapter, Los Angeles, CA (November 22, 1994).

**Lochhead, R. Y.**; "Polymeric Emulsifiers," SCC Southeast Chapter, Memphis, TN (November 14, 1994).

**Lochhead, R. Y.**; "Formulation Principles," SCC Southeast Chapter, Memphis, TN (November 14, 1994).

**Lochhead, R. Y.**; "Industry/Academia Interaction," Polymer Science Industrial Advisory Committee, Hattiesburg, MS (October 27-28, 1994).

**Lochhead, R. Y.**; "Principles of Polymeric Emulsifiers," International Conference on Formulation and the Environment, Biotechnology Center, Research Triangle Park, NC (October 13, 1994).

**Lochhead, R. Y.**; "Adventures in Surfactants," SCC New York Chapter, NJ (October 5, 1994).

**Lochhead, R. Y.**; "The Physical Principles of Formulation," SCC Short Course, Chicago, IL (September 28, 1994).

**Lochhead, R. Y.**; "Polymers and Commerce in Mississippi," Poster Presentation, New South Economic Development Conference, Hattiesburg, MS (September 27, 1994).

**Lochhead, R. Y.**; "Polymeric Emulsifiers," SCC Southeast Symposium, Memphis, TN (September 24, 1994).

**Lochhead, R. Y.**; "Polysaccharide Structure and Polymer/Surfactant Interaction," Procter & Gamble Seminar, Hunt Valley, MD (August 25-26, 1994).

**Lochhead, R. Y.**; P. Shannon; M. Pollard; "An Investigation of Polyelectrolyte/Nonionic Polymer Interactions," American Chemical Society, Polymer Division, Washington, DC (August 23, 1994).

**Lochhead, R. Y.**; C. J. Rulison; "The Adsorption of Hydrophobically Modified Hydrophilic Polymers at Oil/Water Interfaces," ACS, Colloids Division, Washington, DC (August 23, 1994).

**Lochhead, R. Y.**; M. E. Tisack; "An Investigation of Plant Oleosins as Polymeric Emulsifiers," ACS, 68<sup>th</sup> Colloid and Surface Science Symposium, (June 21, 1994).

**Lochhead, R. Y.**; P. Shannon; M. Pollard; "An Investigation of Polyelectrolytes/Nonionic Polymer Interactions," ACS, 68th Colloid and Surface Science Symposium, (June 20, 1994).

**Lochhead, R. Y.**; C. J. Rulison; "Adsorption of Hydrophobically Modified Water Soluble Acrylic Acid and Cellulose-Based Polymers at Dynamic Oil/Water Interfaces," ACS, 68th Colloid and Surface Science Symposium, (June 19, 1994).

**Lochhead, R. Y.**; "Study of the Morphology of Liquid Crystalline Phases Utilizing Long-Chain Fatty Acids," SCC National Scientific Seminar, Las Vegas, NV (May 5, 1994).

**Lochhead, R. Y.**; R. K. Goundas; "Study of the Morphology of Liquid Crystalline Phases Utilizing Long-Chain Fatty Acids when Complexed with Solvents," SCC National Scientific Seminar, Las Vegas, NV (May 5, 1994).

**Lochhead, R. Y.**; A. Hossain; "Liquid Crystalline Morphology of Long Chain Fatty Acids Neutralized by Various Amines in Aqueous Solution," SCC National Scientific Seminar, Las Vegas, NV (May 5, 1994).

**Lochhead, R. Y.**; H. Bui; "An Investigation of the Mechanism of Polymeric Emulsification," SCC National Scientific Seminar, Las Vegas, NV (May 5, 1994).

**Lochhead, R. Y.**; T. Oki; "Determination of the Amount of Polymer Adsorbed to Oil Droplets in Sterically Stabilized Oil-in-Water Emulsions," SCC National Scientific Seminar, Las Vegas, NV (May 5, 1994).

**Lochhead, R. Y.**; C. J. Rulison; "The Kinetics of Polymer Diffusion to Liquid/Liquid Interfaces by Drop Volume Techniques," SCC National Scientific Seminar, Las Vegas, NV (May 5, 1994).

**Lochhead, R. Y.**; P. Shannon; "An Investigation of Polyelectrolyte/Nonionic Polymer and Polyelectrolytes/Polyelectrolytes Interaction," SCC National Scientific Seminar, Las Vegas, NV (May 5, 1994).

**Lochhead, R. Y.**; C. M. Rodgers; "Evaluation of Critical Overlap Concentration for a Series of Polyelectrolytes," SCC National Scientific Seminar, Las Vegas, NV (May 5, 1994).

**Lochhead, R. Y.**; M. E. Tisack; "The Study of Proteins from Plants and Insects as Candidates for Oil Recovery," SCC National Scientific Seminar, Las Vegas, NV (May 5, 1994).

**Lochhead, R. Y.**; J. Medley; "Construction of a High Pressure Fully Automated Reactor Suitable for Critical Fluid Experimentation," SCC National Scientific Seminar, Las Vegas, NV (May 5, 1994).

**Lochhead, R. Y.**; "The Polymer Science Program at the University of Southern Mississippi," ACS, Rubber Division Conference, Chicago, IL (April 22, 1994).

**Lochhead, R. Y.**; C. J. Rulison; "An Investigation of Polyelectrolyte/Polyelectrolyte Interaction," 6th S.E. Graduate Conference, Hattiesburg, MS (April 14, 1994).

**Lochhead, R. Y.**; C. J. Rulison; "The Kinetics of Polymer Diffusion to Liquid/Liquid Interfaces by Drop Volume Techniques," Poster Presentation, 6th S.E. Graduate Conference, Hattiesburg, MS (April 14, 1994).

**Lochhead, R. Y.**; M. E. Tisack; "An Investigation of Plant Oleosins as Polymeric Emulsifiers," Poster Presentation, 6th S.E. Graduate Conference, Hattiesburg, MS (April 14, 1994).

**Lochhead, R. Y.**; A. L. Eachus\*; "Alkanolamine Neutralizers in Cosmetic Formulation," 4th Joint Australian Cosmetic Congress, (April 10, 1994).

**Lochhead, R. Y.**; "Industry/University Co-operative R&D," Eastman Chemical, Kingsport, TN (March 24, 1994).

**Lochhead, R. Y.**; "Construction of a High Pressure Reactor," Dow Chemical, Midland, MI (February 22, 1994).

**Lochhead, R. Y.**; "Associative Thickeners," in the short course, "Coatings," held with the 21st Waterborne, Higher-Solids, and Powder Coatings Symposium, New Orleans, LA (February 8, 1994).

**Lochhead, R. Y.**; "Polymers at Interfaces," in the short course, "Watersoluble Polymers," held with the 21st Waterborne, Higher-Solids, and Powder Coatings Symposium, New Orleans, LA (February 8, 1994).

**Lochhead, R. Y.**; "Polymeric Emulsifiers"; Society of Cosmetic Chemists, Dallas, TX (January 26, 1994).

**Lochhead, R. Y.**; "Polymeric Emulsifiers," Seminar at Rhone-Poulenc, Corporate R&D, New Jersey (January 14, 1994).

**Lochhead, R. Y.**; "Natural Protein Emulsifiers from Menhaden"; Gulf Coast Research Laboratory, Ocean Springs, MS (January 11, 1994).

**Lochhead, R. Y.**; J. Zhou; "The Adsorption of Trimethylammonium Hydroxypropylchitosan on Keratin Fibers," SCC Annual Conference, New York, NY (December 3, 1993).

**Lochhead, R. Y.**; "Polymeric Emulsifiers", Society of Cosmetic Chemists, Boston, MA (November 18 1993).

**Lochhead, R. Y.**; The Global Technology and Marketing of Pharmaceutical and Cosmetic Products", United Nations 3-Day Course, Vienna, Austria (November 8-11, 1993).

**Lochhead, R. Y.**; "Polymers as Hair Fixatives," Society of Cosmetic Chemists, New York, NY (November 3, 1993).

**Lochhead, R. Y.**; C. J. Rulison; S.D. Cain; "Polymeric Emulsifiers," CTFA Annual Conference, Atlantic City, NJ (November 2, 1993).

**Lochhead, R. Y.**; "Research Philosophy: Time-to-Market Versus Basic Research for Innovation," Invited Lecture, CTFA Annual Conference, Atlantic City, NJ (November 1, 1993).

**Lochhead, R. Y.**; "Liquid Crystal Phases in Surfactants and Stratum Corneum," Invited lecture, COSPHA Symposium V, San Antonio, TX (October 7, 1993).

**Lochhead, R. Y.**; "Introduction to Micelles and Liquid Crystals," SCC Educational Symposium, Chicago, IL (August 27, 1993).

**Lochhead, R. Y.**; C. J. Rulison; "Investigation of the Mechanism of Emulsification and Associative Thickening by Hydrophobically-Modified Hydroxyethylcellulose and Poly(acrylic acid)," presented at the American Chemical Society National Meeting, Chicago, IL (August 24, 1993).

**Lochhead, R. Y.**; M. E. Ellis; J. E. Parish; "The Effect of Electrolytes and Cosurfactants on the Phase Behavior and Rheology of Polymer/Surfactant Systems," presented at the American Chemical Society National Meeting, Chicago, IL (August 24, 1993).

**Lochhead, R. Y.**; C. J. Rulison; "Steric Stabilization and Associative Thickening Mechanism of Polymeric Emulsifiers," Gordon Conference, New Hampshire (June 1993).

**Lochhead, R. Y.**; C. J. Rulison; P. Higginbotham; C. Fuller; "An Evaluation of Hydrophobically-Modified Hydroxyethylcelluloses as Stabilizers for the Oil/Water Interface," 67th Colloid and Surface Science Symposium of the ACS, Toronto, Canada (June 21-23, 1993).

**Lochhead, R. Y.**; "Physical Principles of Formulation with Surfactants," Coatings for Formulators Short Course, University of Southern Mississippi, Hattiesburg, MS (June 16, 1993).

**Lochhead, R. Y.**; "Physical Principles of Formulation with Surfactants," Coatings for Chemists Short Course, University of Southern Mississippi, Hattiesburg, MS (June 9, 1993).

**Lochhead, R. Y.**; "Hair and Hair Products," Society of Cosmetic Chemists Short Course, Cleveland, OH (May 20, 1993).

**Lochhead, R. Y.**; "Emulsion Formulation," Society of Cosmetic Chemists Annual Scientific Seminar, Baltimore, MD (May 7, 1993).

**Lochhead, R. Y.**; P. Shannon; "The Effect of Counterion-Molecular Structure and Binding on the Rheology of Polyelectrolyte Thickeners," National Meeting of Society of Cosmetic Chemists, Baltimore, MD (May 1993).

**Lochhead, R. Y.**; C. J. Rulison; H. S. Bui; T. D. Pierce; "Investigation of the Mechanism of Emulsification by Hydrophobically Modified Hydrogels: IV—Dilute Systems," presented at the National Meeting of Society of Cosmetic Chemists, Baltimore, MD (May 1993).

**Lochhead, R. Y.**; C. J. Rulison; P. Higginbotham; C. Fuller; "An Evaluation of Hydrophobically-Modified Hydroxyethyl Celluloses as Stabilizers for the Oil/Water Interface," presented at the National Meeting of Society of Cosmetic Chemists, Baltimore, MD (May 1993).

**Lochhead, R. Y.**; P. Shannon; "Effect of Counterion-Molecular Structure and Binding on the Rheology of Polyelectrolyte Thickeners," Southeastern Graduate Polymer Conference, Georgia (April 1993).

**Lochhead, R. Y.**; M. Ellis; J. Parish; "Effect of Electrolytes and Cosurfactants on the Phase Behavior of Hydrophobically Modified Hydroxyethylcellulose with Ammonium Lauryl Sulfate," Southeastern Graduate Polymer Conference, Georgia (April 1993).

**Lochhead, R. Y.**; C. J. Rulison; H. S. Bui; T. D. Pierce; "Investigation of the Mechanism of Emulsification by Hydrophobically Modified Hydrogels: IV—Dilute Systems," Southeastern Graduate Polymer Conference, Georgia (April 1993).

**Lochhead, R. Y.**; "The Environmental Electron Microscope as a Tool to Examine Natural Fiber Processing," The Society of Cosmetic Chemists, Cleveland, OH (March 17, 1993).

**Lochhead, R. Y.**; "Hair and Hair Products," Short Course for Society of Cosmetic Chemists, Piscataway, NJ (March 16, 1993).

**Lochhead, R. Y.**; "Selection of Associative Thickeners," in the short course "Modern Coatings Technology," held with the 20th Waterborne, Higher-Solids, and Powder Coatings Symposium, New Orleans, LA (February 23, 1993).

**Lochhead, R. Y.**; "Applications of Water-Soluble and Swellable Polymers/Colloidal Protection, Flocculation, Absorption and Adhesion," in the short course "Water-Soluble Polymers," held with the 20th Waterborne, Higher-Solids, and Powder Coatings Symposium, New Orleans, LA (February 23, 1993).

**Lochhead, R. Y.**; "Conditioning Shampoos," Invited presentation to the Society of Cosmetic Chemists, Cincinnati, OH (February 17, 1993).

**Lochhead, R. Y.**; "The Structure and Rheology of Polymer and Surfactant Gels," Procter and Gamble Company, Miami Valley Labs, Cincinnati, Ohio; (February 17, 1993).

**Lochhead, R. Y.**; "Advances in Water-Soluble Polymers," Helene Curtis Industries, Chicago, Ill.; (February 11, 1993).

**Lochhead, R. Y.**; "Reducing Fiber Friction," Monsanto Chemical Company, Pensacola, Fla.; (February 2, 1993).

**Lochhead, R. Y.**; "Phase Diagrams and Formulation," Worldwide Surfactants Council; S.C. Johnson Wax, Inc., Racine, Wis.; (January 26, 1993).

**Lochhead, R. Y.**; "Advances in Water-Soluble Polymers," Alco Chemical, Chattanooga, TN; (January 21, 1993).

Mathias, L. J.; R. F. Storey; **R. Y. Lochhead**; "Introduction to Polymer Synthesis," Nalco Chemical, Sugarland, TX; (January 18-19, 1993).

**Lochhead, R. Y.**; "The Physical Principles of Surfactant Science," Helene Curtis Industries, Chicago, Ill.; (January 14, 1993).

**Lochhead, R. Y.**; "Interpreting Surfactant Phase Diagrams," Monsanto Company, Pensacola, Fla.; (January 8, 1993).

**Lochhead, R. Y.**; "Wetting, Spreading and Adhesion," DuPont Company, Kingston, N.C.; (January 7, 1993).

**Lochhead, R. Y.**; "Selection of Associative Thickeners," Modern Coatings Technology, Waterborne Conference, New Orleans, LA; (February 23, 1993).

**Lochhead, R. Y.**; "Applications of Water-Soluble and Swellable Polymers/Colloidal Protection, Flocculation, Absorption and Adhesion," Water-Soluble Polymers Short Course, Waterborne Symposium; New Orleans, LA; (February 23, 1993).

**Lochhead, R. Y.**; "The Thermodynamics of Controlled Drug Delivery from Gels," Alcon Laboratories, Fort Worth, TX; (December 17, 1992).

**Lochhead, R. Y.**; "Polyelectrolyte Gels - Molecular Structure and Properties, V," BF Goodrich, Brecksville, Ohio; (December 14, 1992).

**Lochhead, R. Y.**; "Polymer/Surfactant Interaction," The Procter and Gamble Company, Miami Valley, Ohio; (December 10, 1992).

**Lochhead, R. Y.**; "The Physical Principles of Gels and Gelation," Colgate-Palmolive Company, Piscataway, NJ; (December 1, 1992).

**Lochhead, R. Y.**; "Polymers at Interfaces," National Starch and Chemical Company, (November 19, 1992).

**Lochhead, R. Y.**; "Polymer Science," 4 Lectures, ACS Heartland Tour to Lincoln and Omaha,Nb; Moorehouse, Mn; and Sioux Falls, SD; (October 21 - 24, 1992).

**Lochhead, R. Y.**; "Adventures with Surfactants," SCC Short Course, Minneapolis, MN; (October 20, 1992).

**Lochhead, R. Y.**; "The Academic/Industrial Interface," USM Polymer Science Industrial Advisory Council, (October 15, 1992).

**Lochhead, R. Y.**; "Polyelectrolyte Gels - Molecular Structure and Properties, IV," BF Goodrich, Brecksville, Ohio; (October 6, 1992).

**Lochhead, R. Y.**; "Polymer-Surfactant Interaction," S.C. Johnson, Racine, Wisconsin; (October 1, 1992).

**Lochhead, R. Y.**; 1 Lecture in the Short Course, *Formulating Coatings*, USM; (August 19, 1992).

**Lochhead, R. Y.**; "Alpha-olefin Emulsions," Ethyl Corporation, Baton Rouge, LA; (August 13, 1992).

**Lochhead, R. Y.**; Lecture in Short Course, *Coatings Science for Coatings Chemists*, USM; (August 12, 1992).

**Lochhead, R. Y.**; "Polyelectrolyte Gels - Molecular Structure and Properties, III," BF Goodrich, Brecksville, Ohio; (August 7, 1992).

**Lochhead, R. Y.**; "Polymers as Hair Fixatives and Cosmetic Delivery Systems," National Starch and Chemical Corporation, Bridgewater, NJ; (August 6, 1992).

**Lochhead, R. Y.**; "The Effects of the Adsorption of Cationic Surfactants at Keratin Interfaces," Sherex Chemical Company, Dublin, Ohio; (July 2, 1992).

**Lochhead, R. Y.**; "Polyelectrolyte Gels - Molecular Structure and Properties, II," BF Goodrich, Brecksville, Ohio; (July 1, 1992).

**Lochhead, R. Y.**; "Polymers in Cosmetics," Eastman-Kodak, Kingsport, TN; (June 30, 1992).

**Lochhead, R. Y.**; "Processing Principles for Surfactant Compositions," S C Johnson, Racine, Wisconsin; (June 9, 1992).

**Lochhead, R. Y.**; "The Effect of Neutralizing Amine Structure on the Properties of Polyelectrolyte Gels," Angus Chemical Company, Chicago, Illinois; (June 8, 1992).

**Lochhead, R. Y.**; "Micelles, Liquid Crystals, and Emulsions," Monsanto Chemical Company, Pensacola, Florida; (May 27, 1992).

**Lochhead, R. Y.**; "Amine Neutralizers," SCC National Conference, Atlantic City, NJ; (May 22, 1992).

**Lochhead, R. Y.**; "Emulsions without Surfactants," SCC National Conference, Atlantic City, NJ; (May 21, 1992).

**Lochhead, R. Y.**; "Polymer-Surfactant Interaction in Textile Finishing," DuPont Chemical Company, Greenville, NC; (April 16, 1992).

**Lochhead, R. Y.**; "Polymer Solutions - Physical Principles," Helene Curtis Industries, Chicago, Illinois; (March 26, 1992).

**Lochhead, R. Y.**; "Polyelectrolyte Gels - Molecular Structure and Properties, I," BF Goodrich, Brecksville, Ohio; (March 12, 1992).

**Lochhead, R. Y.**; "Surfactants, Micelles, Liquid Crystals," SCC, Cleveland, Ohio; (March 11, 1992).

**Lochhead, R. Y.**; Eachus, A.C; Bremecker, K.D.; "Alternative Neutralizing Amines for Carbomers," InCosmetics Conference, Frankfurt, Germany; (March 5, 1992).

**Lochhead, R. Y.**; "The Role of Surface-Active Agents and Polymers in Dispersions," Engineering Foundation Conference, Palm Beach, Florida; (March 1992).

**Lochhead, R. Y.**; "The Role of Surface-Active Agents and Polymers in Coatings," Plenary Lecture, Nineteenth Annual Water-borne Conference, New Orleans, LA; (February 20, 1992).

**Lochhead, R. Y.**; "Applications of Water-Soluble and Swellable Polymers/Colloidal Protection, Flocculation, Adsorption, and Adhesion," *Water-Soluble Polymers Short Course*, New Orleans, LA; (February 19, 1992).

**Lochhead, R. Y.**; "Selection of Associative Thickeners," *Modern Coatings Short Course*, New Orleans, LA; (February 19, 1992).

**Lochhead, R. Y.**; "Principles of Dispersion and Emulsification," Clemson University, Textile Finishing Short Course, (February 12, 1992).

**Lochhead, R. Y.**; "The Science of Print-Paste Concentrates," Clemson University, Textile Finishing Short Course, (February 12, 1992).

**Lochhead, R. Y.**; "Introduction to Emulsion Science," Allergen-Herbert Laboratories, Irvine, Ca ; (February 5, 1992).

**Lochhead, R. Y.**; H. Edelstein; "Hair and Hair Products," SCC Short Course, Los Angeles, Ca ; (February 4, 1992).

**Lochhead, R. Y.**; "Interfaces, Micelles, and Liquid Crystals," Worldwide Surfactants Council, S.C. Johnson Wax, Racine, Wisconsin; (January 16, 1992)

**Lochhead, R. Y.**; "Case Studies in Innovation: Introducing New Materials to the Cosmetics Industry," Ajinomoto Company, Kawasaki, Japan, (October 30, 2000). **Invited Lecture**

## TEACHING

### 1. Courses Taught

**Fall, 1990;**  
PSC 401, 'Physical Chemistry of Polymers",

**Spring, 1991;**  
PSC 402, Physical Chemistry of Polymers",

**Summer, 1991;**  
PSC 791,  
PSC 691,

**Fall, 1991;**

PSC 401, Physical Chemistry of Polymers",

**Spring 1992,**

PSC 711, 'Physical Chemistry of Polymers"

PSC 791, , Research

PSC 691, Research

**Summer 1992,**

PSC 791, , (Research)

PSC 691, , (Research)

**Fall 1992,**

PSC 401, Physical Chemistry of Polymers",

PSC 410, Lab Safety

PSC 691, (Research)

PSC 791, (Research)

**Spring 1993,**

PSC 402, Physical Chemistry of Polymers",

PSC 691, (Research)

PSC 791, (Research)

**Summer 1993,**

PSC 791, (Research)

PSC 691, (Research)

**Fall 1993,**

PSC 410, Lab Safety

PSC 691, (Research)

PSC 791, (Research)

**Spring 1994,**

PSC 791, (Research)

PSC 711, "Physical Chemistry of Polymers",

PSC 691, (Research)

PSC 491, (Research)

**Summer 1994,**

PSC 791, (Research)

PSC 691, (Research)

PSC 898, (Thesis),

**Fall, 1994;**  
PSC 791, (Research)  
PSC 691, (Research)  
PSC 898, (Thesis),  
PSC 401, Physical Chemistry of Polymers",

**Spring 1995,**

PSC 490/491, (Research)

PSC 691, (Research)  
PSC 791, (Research)

**Summer 1995,**  
PSC 791, (Research)

**Fall 1995,**  
PSC 720, (Techniques Lab),  
PSC 341L, (Techniques Lab),  
PSC 791, (Research)  
PSC 691, (Research)

**Spring 1996,**  
PSC 342L, (Techniques Lab),  
PSC 402, "Physical Chemistry of Polymers",  
PSC 721, (Techniques Lab),  
PSC 691, (Research),  
PSC 791, (Research),  
PSC 898, (Thesis),

**Summer 1996,**  
PSC 691, (Research)  
PSC 791, (Research),  
PSC 698, (Thesis),  
PSC 898, (Thesis),

**Fall 1996,**  
PSC 390, (Research)  
PSC 720, (Techniques Lab),  
PSC 341L, (Techniques Lab),  
PSC 691, (Research),  
PSC 698, (Thesis),  
PSC 791, (Research),  
PSC 898, (Thesis),  
HONS 403, 'Organizing for Innovation – Case Histories'

**Spring 1997,**  
PSC 342L, (Techniques Lab),  
PSC 390, (Research),  
PSC 691, (Research),  
PSC 711, "Physical Chemistry of Polymers",  
PSC 721, (Techniques Lab),  
PSC 791, (Research),  
PSC 898, (Thesis),

**Summer 1997,**  
PSC 410, (Lab Safety)  
PSC 490, (Research),  
PSC 490L, (Research),  
PSC 691, (Research),  
PSC 791, (Research),  
PSC 898, (Thesis),

**Fall 1997,**  
PSC 341L, (Techniques Lab),  
PSC 390, (Research),  
PSC 720, (Techniques Lab),  
PSC 698, (Thesis)  
PSC 791, (Research),  
PSC 898, (Thesis),

**Spring 1998,**  
PSC 342L, (Techniques Lab),  
PSC 390, (Research),  
PSC 492, (Research)  
PSC 711, "Physical Chemistry of Polymers",  
PSC 721, (Techniques Lab),  
PSC 791, (Research),

**Summer 1998**  
PSC 691, (Research),  
PSC 791, (Research),

**Fall 1998**  
PSC 691, (Research),  
PSC 791, (Research),  
PSC 898, (Thesis),

**Spring 1999**  
PSC 390, (Research),  
PSC 492, (Research),  
PSC 691, (Research),  
PSC 791, (Research),  
PSC 898, (Thesis),  
PSC 691, (Research),

**Summer 1999**  
PSC 691, (Research),  
PSC 791, (Research),  
PSC 880, Advanced Surface and Colloid Science,  
PSC 898, (Thesis),

**Fall 1999**  
PSC 691, (Research),  
PSC 791, (Research),  
PSC 898, (Thesis),

**Spring 2000**  
PSC 390, (Research),  
PSC 691, (Research),  
PSC 698, (Thesis),  
PSC 711, "Physical Chemistry of Polymers",  
PSC 791, (Research),  
PSC 898, (Thesis),

**Summer 2000**

PSC 691, (Research),  
PSC 898, (Thesis),

**Fall 2000**

PSC 341L, (Techniques Lab),  
PSC 691, (Research),  
PSC 698, (Thesis),  
PSC 720, (Polymer Techniques I),

**Spring 2001**

PSC 342L, (Techniques Lab),  
PSC 390, (Individual Research Projects),  
PSC 402, (Polymer Physical Chemistry),  
PSC 691, (Research),  
PSC 698, (Thesis),  
PSC 721, (Techniques Lab)  
PSC 791, (Research),

**Summer 2001**

PSC 691 (Research),  
PSC 791, (Research),

**Fall 2001**

PSC 691, (Research),  
PSC 789, (Seminar),  
PSC 791, (Research),,,  
CHE 390, (individual Research),

**Spring 2002**

CHE 490 (Hons Research)  
PSC 691, (Research),  
PSC 791, (Research),,,  
CHE 390, (individual Research),  
PSC 402, Polymer Physical Chemistry,  
PSC 698, (Thesis),  
PSC 898 (Thesis),

**Summer 2002**

PSC 791, (Research),  
PSC 698, (Thesis),  
PSC 898 (Thesis),

**Fall 2002**

CHE 491 (Hons Research)  
PSC 691 (Research),  
PSC 697 (Independent Study and Research),  
PSC 791, (Research),  
PSC 698, (Thesis),  
PSC 898 (Thesis),

**Summer 2003**  
PSC 691, (Research),  
PSC 791, (Research),

**Fall 2003**  
PSC 401 (Polymer P. Chem)  
PSC 691 (Research),  
PSC 791, (Research),

**Spring 2004**  
PSC 402 (Polymer P. Chem)  
PSC 691, (Research),  
PSC 791, (Research),,

**Summer 2004**  
PSC 691, (Research),  
PSC 791, (Research),

**Fall 2004**  
PSC 490/491 (Polymer Capstone Course)  
PSC 880 (Polymer Colloid & Surface Science)  
PSC 691 (Research),  
PSC 791, (Research),

**Spring 2005**  
PSC 402 (Polymer P. Chem)  
PSC 691, (Research),  
PSC 791, (Research),,,

**Summer 2005**  
PSC 691, (Research),  
PSC 791, (Research),

**Fall 2005**  
PSC 490/491 (Polymer Capstone Course)  
PSC 691 (Research),  
PSC 791, (Research),

**Spring 2006**  
PSC 402 (Polymer P. Chem)  
PSC 691, (Research),  
PSC 791, (Research),,,

#### Course Evaluations

Lochhead, Robert Y.: student course evaluations on record in the department files,  
good solid evaluations.

#### Graduate Students Directed

Kuk-Wa Chu, advisor, MS, (U. of Cincinnati), 1990.  
Chris Rulison, advisor, Ph.D. 1995  
Porter Shannon, advisor, PhD. 1997  
Monica Tisack-Kathman, advisor, Ph.D. 1998  
Stacey Villafanez-Maggio, advisor, Ph.D. 1999

Cheri McConnell-Boykin, advisor, Ph.D. 1999  
Cynthia Welch, advisor, MS, 1999  
Tonya McKay, advisor, MS, 2000  
Joan Schuman, advisor, Ph.D. 2003  
Jennifer Smith, MS 2000  
Jason Powers, MS advisor  
Camille Haynes, advisor, Ph.D 2003  
Stephen Jones, Ph.D. advisor  
Lisa Huisenga, Ph.D. advisor  
Virginia Smith, Ph.D. advisor  
Andrew Magenau, Ph.D. advisor

Yihua Chang, PhD, committee member  
James Dickerson, PhD, committee member  
Steve Ezzell, PhD, committee member  
Kelly Branham, PhD, committee member  
Brett Chisholm, PhD, committee member  
Stephen Warren, PhD, committee member  
Ken Malone, PhD, committee member  
Veronica Reichert, PhD, committee member  
Robert Thompson, PhD, committee member  
John Randy Wright, PhD, committee member  
David Squire, PhD, committee member  
Shunlu Shu, PhD, committee member  
Erich Kathmann, PhD, committee member  
Edgardo Anzures, PhD, committee member  
Chase Boudreaux, PhD, committee member  
Amy Taylor, PhD, committee member  
Kelly Shoemake, PhD, committee member  
Daniel Baugh, PhD, committee member  
James Rawlins, committee member  
Sandra Young, committee member  
Raghuram Gummaraju, committee member  
Martin E. Cowan, committee member  
Forrest Landis, committee member  
Christopher Cypcar, committee member  
Jianbin Xue, committee member  
Wassana Apichatachutapan, committee member  
Timothy Boykin, committee member  
Elizabeth Brister, committee member  
Corey King, committee member  
Melissa Manuszak, committee member LSU  
David Suizdak, committee member  
Scott Steadman, committee member  
Nick Weigel, committee member  
Leslie White, committee member  
Scott Armentrout, committee member  
Shan Clark, committee member  
Michael Donovan, committee member  
Kathryn Johnson, committee member  
Corey King, committee member  
Mark Michalovic, committee member

David Mountz, committee member  
 Grant Barber, committee member  
 Gregory Booth, committee member  
 Christopher Lester, committee member  
 Bo Pan, committee member  
 Dennis Parrish, committee member  
 Garrett Poe, committee member  
 Michael Richardson, committee member  
 Paul Start, committee member  
 David Thomas, committee member  
 Amy Marks, committee member - USM Biology and FDA.  
 Brent Sumerlin, committee member.  
 Adam Scheuer, Committee Member  
 Alicyn Hayney, Committee Member  
 Gregory Brust, Committee Member  
 Jamie Messman, Committee Member  
 Sean McConaughy, Committee Member  
 Gilles Divoux, Committee Member,  
 Adam Lamont, Committee Member  
 Stacey Trey, Committee Member,  
 Alicyn Haney, Committee Member

#### Undergraduate Research Directed

##### Spring 1991

Chad Edwards;	Polymer/Surfactant Interaction
Robert Hathorne;	Polyelectrolyte Adsorption
Travis Jones;	Polymer/Surfactant Interaction

##### Fall 1991 & Spring 92

Wolfe, P.S.;	"Polymer-Surfactant Interaction in an Uncharged Polysaccharide-Ammonium Lauryl Sulfate System."
Parish, J.G.;	"Study of the Interaction of an Anionic Surfactant with a Cellulosic Associative Thickener."
Brooks, G.A.;	"Investigation of the Interaction Between a Cationically-Charged Hydrophobically-Modified Hydroxyethyl Cellulose."
Wissner, A.;	"Effect of Strong Bases on Human Hair."
Lindsey, D.M.;	"Polymer-Surfactant Interactions in Potential Bioadhesive Systems."

Powell, M.;	"Investigation of the Effect of the Molecular Structure of Organic Amine Neutralizing Bases on Poly(acrylic acid) Ion Expansion in Aqueous Solution."
Brown, R.;	"Evaluation and Selection of Neutralizers for Poly(acrylic acid) Thickeners."
Cooley, G.E.;	"Evaluation of Alternative Neutralizing Bases for Carbomers: The Effect of Neutral, Ionomically-Dissociated Salt."
Gay, K.M.;	"Investigation of the Molecular Adsorption of Surfactant and Hydrophilic Polymer Aqueous Solutions on Glass and Keratin."
Kwan, K.S.;	"Investigating the Use of a Polymeric Emulsifier to Prepare New Low Volatile Organics Aqueous Coatings."
Edwards, C.F.;	"Identifying the Interactions Between Sodium Dodecyl Sulfate and Hydroxypropylcellulose."
Fron, W.R.;	"An Investigation of the Effect of the Molecular Structure of Neutralizing Amine on the Efficacy of Carbomers as a Gellant for Hydroalcoholic Systems."
Watson, M.;	"Interaction Between Hydroxyethylcellulose and Ammonium Lauryl Sulfate."
West, R.;	"Alternative Amines for Carbopol."

Summer 1992

Bui, H.S.;	"Polymer Adhesion at Liquid-Liquid Interface."
Armstrong, K.;	"ALS-CTAC."
Wolfe, S.;	"ALES/HMHEC."
Dodd, D.;	"ALES/HMHEC."
Watson, M.;	"TEA Palmitate."
Hossain, A.;	"TEA Palmitate"
Nguyen, T.;	"TEA Palmitate."
Pierce, T.;	"ALS/ALES."
Phillips, D.;	"Alternative Amines for Carbomer."
Light, K.;	"Alternative Amines for Carbomer."

Bridges, C.;	"Alternative Amines for Carbomer."
Medley, J.;	"Alternative Amines for Carbomer."
Higginbotham, P.;	NSF REU student
Fuller, C.;	NSF REU student
West, R.;	"Alternative Amines for Carbomer."
<u>Fall 92</u>	
Bui, H.S.;	"Polymeric Emulsifiers"
Struss, B.;	"Polymeric Emulsifiers."
West, R.;	"HMHEC & Nonionics."
Powell, M.;	"Polymer/Clay Interaction."
Watson, M.;	"Spatterguard Analysis."
Armstrong, K.;	"Cationic Surfactant/Polymer."
Nguyen, T.;	"Alphastep & Glucose Esters with HMHEC."
Medley, J.;	"Counterion Binding."
Phillips, D.;	"Hydrotrope/Counterion Distribution."
Pierce, T.;	"Polyelectrolyte Characterization."
Rodgers, C.;	"Polyelectrolyte Characterization."
Light, K.;	"Evaluation of Alternative Neutralizers for Carbomer."
Hossain, A.;	"Evaluation of Alternative Neutralizers for Carbomer."
Bridges, C.;	"Evaluation of Alternative Neutralizers for Carbomer."
Cunningham, S.;	"Evaluation of Alternative Neutralizers for Carbomer."
Fron, W.;	"Counterion Binding."

Spring 1993

- Bui, H.S.; "Dynamics of the adsorption of hydrophobically-modified poly(acrylic acid) of oil-water interfaces."
- Struss, W.; "Design of a drop-volume apparatus to measure kinetics of polymer adsorption."
- West, R.; "Interaction of hydrophobically-modified hydroxyethylcellulose with lyotropic liquid crystals."
- Hossain, A.; "Phase diagrams of oil-water systems in the presence of polymeric emulsifiers."
- Armstrong, K.; "Investigation of the interaction of hydrophobically-modified hydroxyethylcellulose with ammonium lauryl ether sulfate."
- Nguyen, T.; "Investigation of the interaction of hydrophobically-modified hydroxyethylcellulose with alkyl polyglycerides."
- Light, K.; "Phase diagrams of the system 2-amino-2-methylpropanol, palmitic acid, water."
- Phillips, D.; "A study of the hydrotrope effect of 2-amino-2-methylpropanol in linear alkylbenzene sulfonate."
- Gates, A.; "An investigation of the phase of the system Poly(acrylic acid) and ammonium lauryl sulfate."
- Bridges, C.; "An investigation of the phase-behavior of the system N, N, N<sup>1</sup>, N<sup>1</sup> tetrahydrocypropyl ethylenediamine/palmitic acid/water."
- Medley, J.; "Polymer Gel Rheology."
- Fron, W.; "Literature Survey and Review of Cosmetic Polymers."
- Pierce, T.D.; "Molecular Characterization of cross-linked poly(acrylic acid) microgels."
- Rogers, C.; "Viscosity characterization of poly(acrylic acid) microgels."

Summer 1993

- Welch, C.; "A study of the rheology of polymer/surfactant gels; hydrophobically modified hydroxyethylcellulose and ammonium lauryl sulfate."
- Armstrong, K.; "The phase-behavior of spin-finishes."

	Bridges, C.;	"Mesomorphic phase behavior of palmitic acid; amino-methylpropane and water."
	West, R.;	"Mesomorphic phase behavior of oleic acid, amino-methylpropane and water."
	Goundas, K.;	"Mesomorphic phase behavior of oleic acid, N,N N', N' tetrahydroxypropyl ethylene diamine and water."
	Hossain, A.;	"Mesomorphic phase behavior of oleic acid, triethanolamine and water."
	Medley, J.;	"Construction of a high-pressure reactor for the polymerization of ethylene under supercritical conditions."
	Cain, S.;	NSF REU student
	Thorton, K.;	NSF REU student
	Walker, K.;	NSF REU student
<b>1994</b>	Cole, M, King, C	NSF REU student from Georgia Tech NSF REU student from Tulane University
<b>1995</b>	Lamonte, J. Rediske, J. Robbins, E. Sanford, W. Craig, Sean Donovan, M.	"Polymeric surfactants" "Lyotropic Liquid Crystals" "Hydrophobically-modified Starch" "Menhaden Protein" REU student from St. Norberts, WI REU student from St. Norberts, WI
<b>1996</b>	Montes de Oca, M. Lamonte, J. Robbins, E. Sanford, W.	"Polymer adsorption on montmorillonite" "Polymeric Surfactants" "Hydrophobically-modified Starch" "Menhaden Protein"
<b>1997</b>	Clifton, William Montes de Oca, M. Dorman, D. Fye, F. Hunt, D. Johnson, Ah Tuan La Monte, J. Marks, A. Robbins, E. Sanford, W.	"Polymer adsorption" "Polymer adsorption" "Hydrophobically-modified polysaccharides" NSF REU student "Phase Diagrams" "Polymer Adsorption" "Polymeric Surfactants" "Polymer Adsorption" "Hydrophobocally-modified Starch" "Menhaden Protein"
<b>1998</b>	Boudreaux, R. Dorman, D.	"Phase Diagrams" "Hydrophobically-modified Polysaccharides"

	Hunt, D. Marks, A. Preskin, D.	"Phase Diagrams" "Polymer Adsorption" "Rheology of surfactant phases"
1999	Boudreax, R. Dorman, D. Marks, A. Preskin, D.	"Phase Diagrams" "Hydrophobically-modified Polysaccharides" "Polymer Adsorption" "Rheology of surfactant phases"
2000	Ali, M. Boudreax, R. DeLaine, Arvelle Dorman, D. Kolibal, L. Murray, C. Presken, D. Shaw, J. Watson, N. Thomas, R.	"Polymeric Micelles" "Polymeric Micelles" "Polymeric Micelles" "Hydrophobically-modified polysaccharides" "Polymeric Micelles" "Polymeric Micelles" "Polymeric Micelles" "Polymeric Micelles" "Phase Diagrams" NSF REU Student
2001	DeLaine, Arvelle Kolibal, L. Urban, A.	"Polymeric Micelles" "Hydrophobic Modification of Hydrophilic Polymer" "Adsorption of polymers on Montmorillonite"
2002	DeLaine, Arvelle Kolibal, L. Urban, A. Gallender, S. Decker, J.	"Polymeric Micelles" "Hydrophobic Modification of Hydrophilic Polymer" "Adsorption of Polymers on Montmorillonite" "Emulsion droplet/particle interaction" NSF REU Student from Steven's Point Wisconsin
2003	DeLaine, Arvelle Wills, Jamesha Edwards, Christina	Biodegradable Nanocomposites Hydrophobic Modification of Hydrophilic Polymer Polymer-Surfactant Interaction
2004	Edwards, Christina Cole, Marsha Cox, Ashley Goodman, Lauren Follett, Nathan	Polymer-Surfactant Interaction Clay-Polymer Interaction Wetting of Aluminum Stearate Polymer-surfactant Interaction Polymer polyphenol coacervates
2005	Edwards, Christina Cox, Ashley Goodman, Lauren Tara Waller	Polymer-Surfactant Interaction Polymer nanocomposites Polymer-surfactant Interaction Polymer-surfactant Interaction
2006	Edwards, Christina Cox, Ashley Goodman, Lauren Tara Waller	Polymer-Surfactant Interaction Polymer Coacervates Polymer-Rheology Polymer-surfactant Interaction

Summary of External Research Funding of R. Y. Lochhead, 1991 - Present

<u>Project</u>	<u>Source</u>	<u>Award</u>
Polymer/Surfactant Coacervates -Structure Building	S.C. Johnson & Sons, Inc.	\$49,000
Evaluation of a New Associative Thickener	S.C. Johnson & Sons, Inc.	\$3496
Investigation of the Mechanism and Molecular Structure/Property Relationships Involved in Polymeric Emulsification	SC Johnson Wax	\$10,000
The Study of Structure-Building by Polymer/Surfactant Coacervates II	SC Johnson & Son, Inc	\$27,017
The Study of Structure-Building by Polymer/Surfactant Coacervates III	SC Johnson & Son, Inc.	\$19,171
The Study of Structure-Building by Polymer/Surfactant Coacervates IV-A	SC Johnson & Son, Inc	\$9,802
The Study of Structure-Building by Polymer/Surfactant Coacervates IV-B	SC Johnson & Son, Inc.	\$44,905
Develop a Fundamental Understanding of Carbopol Resins	BF Goodrich	\$50,000
Study of the Synergistic Structuring of Smectite Clays with Water-Soluble Polymers	Southern Clay Products	\$6,219
The Role of Hydroxypropylchitosan in Hair Products	Amway Corporation	\$4,855
The Role of Alkanolamines as Hydrotropes in Detergent Formulation	Angus Chemical	\$15,410
Copolymerization of Ethylene with Acid Anhydrides	Dow Chemical Company	\$84,053
Polymer/Surfactant Coacervates	S.C. Johnson Wax, Inc .	\$43,500
Development of a Macromolecular Emulsifier	Mississippi-Alabama Seagrant Consortium	\$196,980 (over 3 years)
Polymerizations in Microgravity (with L.J.Mathias and J. Pojman)	NASA	\$135,402/3 = \$45,134
Investigation of the Mechanism and Molecular Structure/Property Relationships Involved in Polymeric Emulsification II	SC Johnson Wax	\$10,000.

Ethylene Copolymers	Dow Chemical	\$47,954
Surfactant coacervates	S.C. Johnson	\$10,000
Novel Surfactants	S.C. Johnson	\$59,775
Hydrophobically modified polysaccharides	Alcon Labs	\$41,579
Starch emulsifiers	National Starch	\$20,763
Surfactant coacervates	SC Johnson	\$15,000
	American Soybean Association	\$74,291
Soy protein emulsifier	Research Services	\$22,185
Research Service	Phillips Petroleum	\$9,000
Fellowship	National Starch	\$22,000
Starch emulsifiers 1	Research Services	\$41,379
Research Service	SCC	\$20,000
Plant oleosins	Troy Chemical	\$1,000
Fellowship	Research Services	\$17,500
Res services	Paxon	\$3,000
Scholarship	NIST	\$316,828
Mississippi Pilot extension service	SCC	\$20,000
Polyelectrolyte/surfactant interaction	Exxon	\$9,000
Casein Adsorption	SPE Fellowship	\$5,000
Fellowship	SCC	\$20,000
Plant oleosins	NASA	\$22,000
Hydrophobically -modified Polysaccharides	NIST	\$523,221
Mississippi Pilot extension service	Southern Clay Prod	\$10,000
Clay structure	Valspar	\$2,500
Scholarship	NIST	\$523,221
Mississippi Pilot extension service	Troy Chemical	\$1,000
Fellowship	SCC	\$20,000
Polyelectrolyte/surfactant interaction	GE	\$14,000
Fellowship	Unilever	\$75,469
Air Quality	Eastman	\$800
Grant	SPE Fellowship	\$2,000
Fellowship	Valspar	\$2,500
Fellowship	McWhorter	\$2,000
Scholarship	Southern Clay Prod	\$15,000
Clay structure	Valspar	\$2,500
Fellowship	DARPA	\$247000
Nanocomposites	NSF	\$1.2 million
Major Instrumentation Grant – NMR upgrade		

"Mississippi Polymer Institute,"	Department of Commerce,	\$606,239 (April 2000),
"The Development of Polymers",	Unilever PLC,	\$59332, July 2001
"IPA for Beverly Bradley",	Naval Oceanographic Office,	\$158,454, July 2001
"IPA for Eigoro Hashimoto",	Naval Oceanographic Office,	\$185,894, July 2001
"Environmentally Compliant Coatings".	Office of Naval Research,	\$480,833, Sept 2001.
"High Performance Visualization Center Initiative"".	Naval Oceanographic Office,	\$126,000
"Biodegradable Ionomers and Composites".	Office of Naval Research,	\$250,000, Nov 2001.

"Distinguished Polymer Lecture Series,"	Bayer Corporation,	\$10,000 (April 2001)
"Investigation of Macromolecular Intrusion into Constrained Spaces,"	Society of Cosmetic Chemists	\$20,000, (March 2001)
"IPA for Beverly Bradley",	Naval Oceanographic Office,	\$158,454, July 2001
"Partnership for Innovation,"	National Science Foundation,	\$600,000 (July 2001)
'Investigation of Macromolecular Intrusion into Constrained Spaces,"	Society of Cosmetic Chemists	\$20,000, (June 2002)
Unrestricted Funds,"	The Procter & Gamble Company,	\$10,000 (June 2002)
Partnerships for Innovation in High Throughput Screening	National Science Foundation	\$600,000 (Sept. 2002)
Biodegradable Nanocomposites	Office of Naval Research,	\$250,000, (2003)
Cationic Cellulose Screening	The Procter & Gamble Company,	\$96,000 (2003)
Biodegradable and Digestible Nanocomposite Stretch Wraps for Ecologically-Acceptable Marine Disposal.	Office of Naval Research	\$140,000 (2004)
Polymer-surfactant coacervates	Society of Cosmetic Chemists	\$20,000, (2004)
Polymer-surfactant coacervates	Society of Cosmetic Chemists	\$20,000, (2005)
Biodegradable and Digestible Nanocomposite Stretch Wraps for Ecologically-Acceptable Marine Disposal.	Office of Naval Research	\$169,000 (2005)
Polymer- surfactant interactions	Johnson & Johnson	\$30,000 (2005)
Polymer – clay interactions	Southern Clay Products	\$30,000 (2005)
Polymer 'Lab-on a-chip'	Department of Commerce, NIST	\$575,000 (2005)
Combinatoria lMethods	Procter & Gamble	\$6,127 (2006)